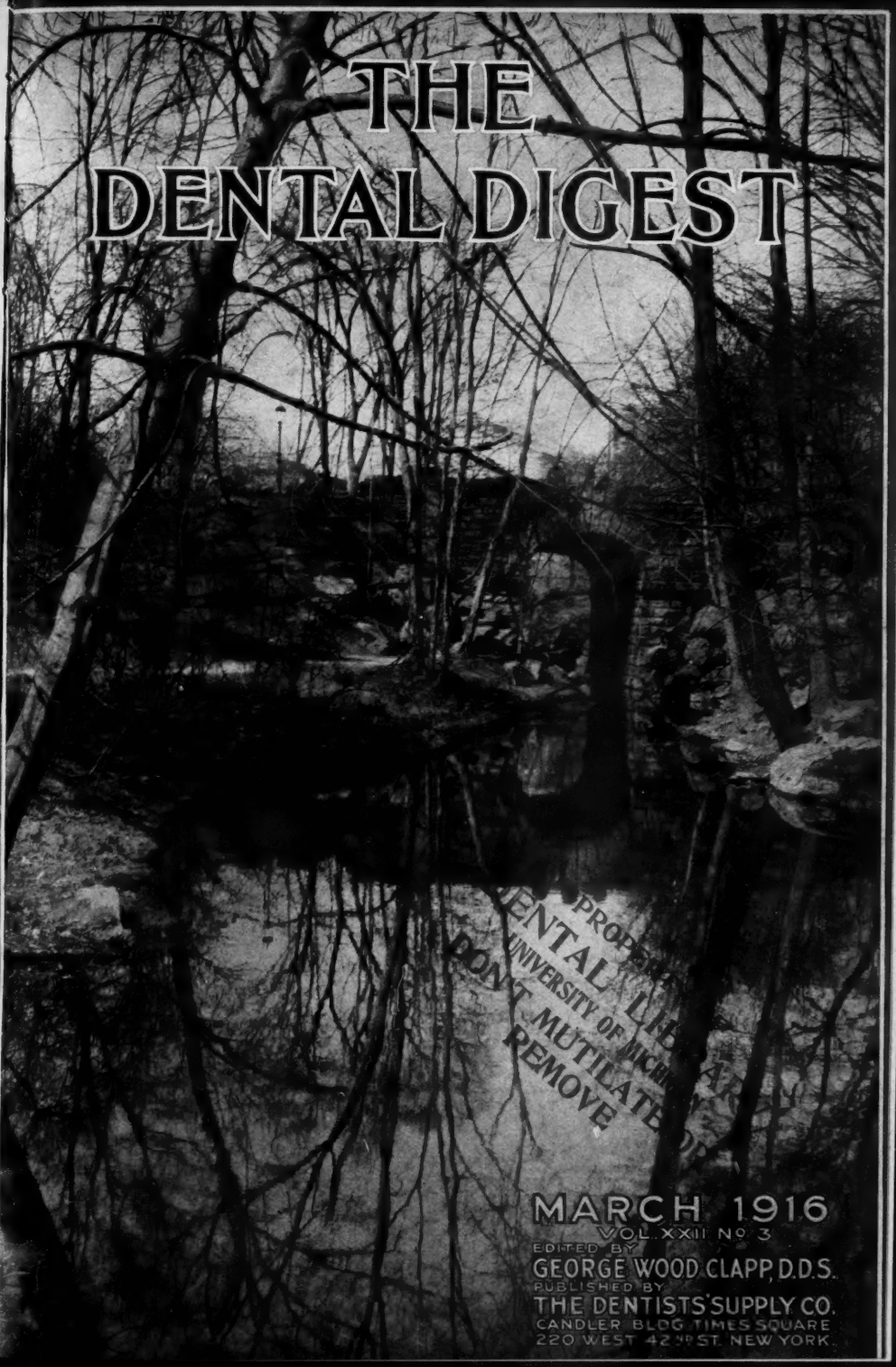
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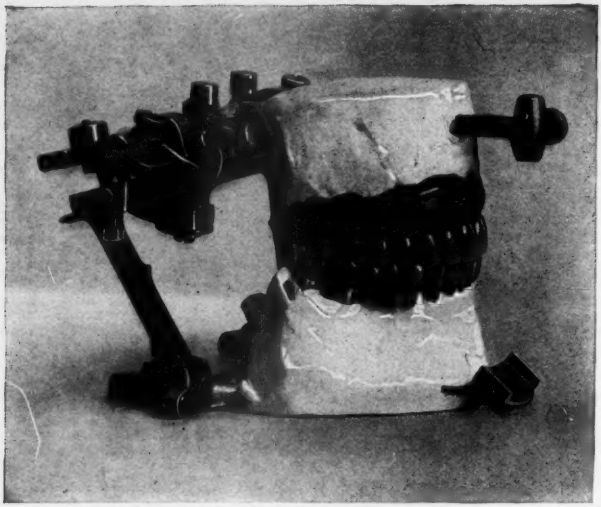

From a Case by Dr. H. W. Hergert

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THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., Editor

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CONTRIBUTED ARTICLES

CLOSED MOUTH IMPRESSIONS*

BY SAMUEL G. SUPPLEE, NEW YORK, N. Y.

THIRD PAPER

The more I study impression taking the more I become convinced that while proper manipulation of modelling compound is not all of impression taking, there can be no first class impression without proper manipulation of modelling compound.

Furthermore, I feel quite sure that the old method of heating a pan of water over a flame and dropping compound into it to be softened is not only not the best means of preparing the compound for the impression, but that it is so far inferior to more recent methods of heating water for this purpose, that only by constant attention to the compound while heating thus can it be properly softened.

Mr. Supplee has done much to perfect methods of preparing the compound for impression taking as well as to improve the methods for its use in the mouth.—EDITOR.

VALUABLE HINTS ON THE USE OF MODELLING COMPOUND FLOWING AND FLEXIBLE CONDITIONS

To use modelling compound successfully, one must understand what kind to use and the conditions of its use.

When Perfection Modelling compound is heated in water to between

*This article began in the January, 1916, number.

160 and 170 degrees, it will conform to either soft or hard tissue with slight pressure, and will not be hot enough to cause discomfort.

This makes it possible to insert into the mouth when it is at a **flowing consistency**, and permits the muscles to trim the margins of the denture without straining the muscles. Pressure must not be applied to the compound till it has passed from this flowing state into what I call "the flexible state" when it can be bent without distorting the outline form of

'A satisfactory water heating apparatus

the margins. This is a very important point in taking impressions of practically all uppers and many lowers.

Most compounds contain too much gum; and as a result do not reach the flowing state until heated above a temperature suitable for use in the mouth. They become tough and stringy at lower temperatures.

This toughness has a tendency to improperly displace tissue and may prevent a satisfactory impression of soft ridges and the buccal and labial attachments of the upper and lower jaws are easily displaced.

MOVABLE SOFT TISSUE ON THE BUCCAL AND LABIAL BORDER

Surrounding the base of each muscular attachment to the ridge is movable soft tissue on which pressure can be brought to bear in such way as to aid in the retention of a denture and increase the comfort of the patient in masticating.

In the average mouth, this movable soft tissue covers an area varying from $\frac{1}{8}$ to $\frac{1}{4}$ of an inch wide over the buccal and labial border, and generally comes down to within $\frac{1}{8}$ of an inch or less of what may be called the occlusal surface of the ridge.

The form of this soft tissue is readily changed by the movement of the muscles in passing from their rear to their forward position.

Dentures which are to be permanently successful must be trimmed by the muscles in passing from their rear position to their forward position while the compound is in a flowing state. The compound must then be permitted to partially set, so that it will pass from the flowing state to the flexible state. Finger pressure can be then exerted **without causing the compound to flow.** By means of this finger pressure, the compound can be brought to bear on the movable soft tissue without displacing the muscular attachments or **compressing them in a distended position.** In the average case, one minute should elapse after the muscle trimming before finger pressure should be brought to bear over the buccal and labial border.

If finger pressure is brought to bear when compound is in a flowing state, it will force the compound upward and so change the form of the margin that the bearing will be on the muscle too far from its point of attachment to the ridge, and will pull or improperly displace the movable soft tissue. The muscular attachment will respond to this pressure and will release the pull on the movable soft tissue; as a result the plate will cease to be in contact with the soft tissue and the muscle will then move back and forth beneath the edge and will displace the denture.

PRESSURE ON THE MOVABLE SOFT TISSUE SURROUNDING THE BASE OF THE MUSCULAR ATTACHMENT IS IMPORTANT

If an impression is taken with the mouth closed and pressure is brought to bear on the movable soft tissue that surrounds the attachment of the muscle to the ridge (less than $\frac{1}{16}$ of an inch on the muscle itself,) it will not materially interfere with the free movement of the muscle When the mouth is opened, there will be a pull on the movable soft tissue by the muscle that will cause it to seal the edge more firmly, so that the wider the mouth is opened, the more firmly the joint with the plate will be sealed by the tissue.

Inasmuch as the mouth is closed or within one quarter of an inch of being so without biting pressure being applied 75 per cent. or more of the time, the soft tissue is under light pressure three-quarters of the time and under heavy pressure when masticating, say one quarter of the time.

Movable soft tissue will sustain a considerable pressure without the

circulation being affected and will form a contact with the plate at all times, which is of great benefit to the patient.

The amount of pressure should be sufficient to embed the buccal and labial border of the impression into the soft tissue. When such pressure is being exerted during the finishing of the impression the thickness of the compound and the amount of resistance offered by the compound must be considered; by referring to illustrations you will note the different formation which can be given to the compound, in the same mouth. The illustrations show different thicknesses of compound overlaying the buccal surface of the ridge in the cuspid region, where the greatest change in the shape of the compound is possible.

A simple experiment to learn what pressure may be applied, is to warm a small piece of compound about $\frac{1}{8}$ of an inch thick, and wait until it has passed into the flexible state. Then hold it between the tip of the

No. 1 No. 2 No. 3

Modifications of the form of an impression by pressure. Three impressions from one mouth

No. 1. Illustrates muscle trimmed impression with no pressure over buccal border.

No. 2. Muscle trimmed with thicker margin but pressure exerted over the buccal border when the mouth was closed and under biting pressure. Modelling compound was at the proper consistency and represents the necessary contour for finished denture.

No. 3. Muscle trimmed. Pressure was applied when compound was too soft. The rim was forced higher than is desired in the denture. The rim is flared outward by the improperly displaced muscular attachments

thumb and the index finger, and by using the index finger of the other hand note how much pressure is necessary to embed the compound slightly into the soft tissue.

TO AVOID TEMPORARY RESULTS

If excess pressure is brought to bear on this tissue, it will often produce a plate that will be exceedingly tight to start with; but in a short time the tissue will respond, and the patient will experience a looseness of the denture without it necessarily dropping from place. This, in some cases, will cause a loss of confidence, and the psychological effect is such that the patient will be dissatisfied with what would otherwise have been a very satisfactory denture. In many cases where the distortion has been very great, the plate will be absolutely useless.

It is far better to have too light a pressure than too heavy. The former will improve in fit within a day, while the latter will become less firm in two or three weeks.

(*To be continued*)

TECHNIC FOR MAKING GOLD CROWNS FOR POSTERIOR TEETH IN MOUTH WHERE THE BITE IS VERY CLOSE

By Raymond S. Scovil, D.D.S., Johnstown, N. Y.

After the proper grinding of a tooth for a gold crown, there are three things that I take into consideration in making the crown.

(1) The relation of the occlusal surface of the crown to the tooth that strikes it in masticating.

(2) The technic and shape of the crown to the other teeth.

(3) The kind of a crown that is easiest made and still keep the first two principles that I have mentioned.

In a mouth where the teeth come together naturally and the bite is light I make a seamless gold crown, the occlusal surface of which can easily be carved to articulate perfectly with the contending teeth. In cases where the bite was very heavy and the teeth all worn smooth by mastication I usually made the two-piece cap and band crown. Now after considerable experimenting I have been able to make a cast gold crown that has the appearance of a natural tooth. When I say appearance, I mean the occlusal surface of the crown has the same striking effects as a natural tooth, the carving of it is the same as natural teeth and the labial and the lingual sides are the same. In this crown after it has been polished, there can be seen no dividing line between the cap and the band, and it has all the graceful lines and curves of a natural tooth that a two piece crown cannot always have.

Recently a man came into my office to have work done. After examining his teeth I found that he had a lower second molar to be crowned. The bite was very heavy and all his lower posterior teeth were worn smooth as a result of inveterate plug tobacco chewing. To this case I made the cast gold crown which took in actual time not including hardening of plaster, about one-half an hour.

When this crown was finished it could have stood a test against any seamless or two-piece crown in appearances or masticating properties.

In making this kind of a crown I use the following method. After the impression has been taken and the model has been mounted upon the articulator, I take the dentimeter and take a wire measurement of the tooth while the patient is in the office and then I compare it with the tooth on the plaster model which I had just mounted. If they agree I take a fine pointed instrument and carve the gum margin in the usual way, but a small fraction of an inch deeper. I then make a gold band to fit the tooth snugly paying careful attention to allow the ends of the bands to overlap each other when soldering, and also to have the band a

small fraction of an inch higher than the top of the ground tooth. I then with the pliers contour the band paying good attention to appearance to lines on the labial and lingual sides.

I then take some inlay wax and soften it and place it gently on the top of the tooth with band around and close the bite together giving very careful attention to the sliding bite as well as the natural bite, straight up and down. I then separate the bite and begin to carve the wax. In trimming the wax at the top edge, extend the wax over the band a little. If you find that the band has not been properly contoured you can

Illus. No. 1

Illus. No. 2

remedy this by building it out with wax. Another important thing to remember is to allow a small scale of wax to extend over the seam, where the band was soldered, on the outside of the band. Often in casting, the solder at the joint will run and the joint will be very weak. Now if the solder should run it would be resoldered in casting.

After the wax has been properly carved and shaped remove the band with the wax together and cut all excess wax from the inside of the band.

The next and most important step is the investing of this whole construction. Remember the band and the wax top are invested together. In investing this construction do not insert the sprue wire in the top of the occlusal surface (see Illus. No. 1). There is a possibility in casting that solder will run on the outside of the band where it is not needed, also a possibility of solder running on the inside of the band making it almost impossible to put on the tooth in the mouth without a lot of grinding.

Insert the sprue wire *between* the gold band into the *back* of the *wax cusp* (see Illus. No. 2) and when the gold and solder are run into casting it will only run where wax was on the band. After this precaution invest in the usual manner and after investment is sufficiently hard and dry place in heater and burn out wax. Take 22 karat gold and an equal amount of solder and melt over the sprue hole and when gold is the color of white heat cast in usual manner. The casting apparatus that I use is nothing more than a two inch gas pipe filled with wet asbestos; with this I force the gold into the sprue hole in the casting ring. Any ordinary casting apparatus will do.

After the casting is cool and the cast taken out, cut out sprue and polish. After the crown is polished you will wonder where the dividing line is. When you put the crown in the mouth you will find that it is the *best fitting*, and the *best looking* and has the best *occlusal surface* of any crown you have made. You will also find out later that it is the best *wearing crown* you have ever put in. This method of making of cast gold holds true of all posterior teeth.

RUGAE

By Victor Lay, D.D.S., Buffalo, N. Y.

It seems that rugae are not only desirable, but quite necessary. It is said that the tip of the tongue is the most sensitive spot in the human anatomy. If this is true, then the tongue will aid speech and mastication, and will feel more at ease, when it is in contact with a close reproduction of the Almighty-designed surface.

To satisfy yourself, try some experiments on your own palatal surface, using a smooth wax base plate, first—then add some wax rugae and note the difference.

To be of any service, the rugae must be well forward, beginning with a central ruga just behind the central teeth, and running distally in the median line. From this the other rugae radiate, and should imitate the characteristics of the case at hand.

To produce this effect, the trial plate (teeth set up) is removed from the model, and the rugae traced onto the palatal surface of the plate with a hot wax spatula, using one of the pink waxes which cools to the desired hardness. First produce the central ridge, then imitate the characteristics appearing on the model. The proper sharpness and accuracy is obtained by trimming the wax with a sharp knife. Smooth by waving over the flame. Thin sheet tin is now burnished over the surface, the plate being on the model. A rubber eraser makes a good burnisher. Turn up several lugs on the edge of the tin to engage the plaster when the upper half of the flask is filled. This is not especially new, but may be of some assistance to someone.

AN AID IN MAKING LARGE PLUMPERS

In making large plumpers, a piece of old vulcanite plate is shaped up approximately to fill the space in the investment and wrapped in a hot water sheet. This will prevent porosity.—F. H. B., *The Dental Cosmos.*

SUGAR AND ITS EFFECT UPON THE TEETH

By John S. Engs, D.D.S., Oakland, Cal.

As the things with which we are in daily contact are sometimes passed unobserved, so precautions, which if taken in time would often prevent disease, are disregarded because of their very commonplaceness and simplicity. "But it is the little things in life that count," and as stick upon stick and stone upon stone great structures rise, so our bodies grow, cell by cell being formed from food taken by the growing organism.

Like many other destructive processes which are probably accelerated by the strenuous life of to-day, caries of teeth, or tooth decay, is on the increase. So universal is its presence, that an English doctor, James Wheatley, said that measures to check its advance are as much needed as are measures to check the spread of tuberculosis. He said also, that consumption of candies and sweets is greater than at any time in history, a state of things which he disapproves of strongly. Another authority, J. Hopewell Smith of London, said, parents should not allow children to indulge in sweetmeats; if they must eat them, then only those made of pure sugars free from adulterations should be employed; eating them at, not between meals. (I think if I were to advise as to the kind of sugar to use in making candy for children, I would not say "pure sugar," because by that is understood refined sugar, but rather use crude sugar or cane syrup, for it contains all the food element of the juice of the sugar cane, which has been found to be capable of furnishing body building material and sufficient energy to enable the user to subsist on it entirely, during long periods when engaged at hard manual labor, to the exclusion of all other food materials. Such sugar will make "panoche" a favorite mixture with school girls and also drawn candy with which we were all more or less familiar some years ago.) He expressed it as his opinion, that the confectionery factories and the wares of street venders should be placed under State control. England leads the world in the consumption of sugar per capita; the United States comes next. Does not that offer us food for thought?

SUGAR

When used in reasonable amounts sugar is one of our most valuable food products. It furnishes both heat for the body and working power for the muscles. Practical demonstration has shown that it also possesses stimulating properties which enable us to tide over periods when without it, the body would succumb to fatigue. But used in excess as it is to-day all over the world, particularly in England and the United States, it is

believed to be detrimental to our health and destructive to the osseous tissues of the body.

Most of the bad effects of sugar are due to its use in greater amounts than 3 to 4 ounces per day. It is not locally harmful to the teeth, but is injurious to them through its action upon the digestive system and metabolism. Like starch, sugar is fattening. When consumed in large quantities the excess is transformed into fat and stored away as reserve material. While a very active child may burn up a large amount of carbohydrates to supply energy for his play, a less active one would soon feel the effect of overindulgence in sugar and sweetmeats, through indigestion and an overloading of the excretory organs.

The chief tissues concerned in the elimination of waste material from the body are the skin, lungs and air passages (including the mouth and nose), the kidneys, liver and intestines. Interference with the eliminative powers of the three latter is especially apt to throw extra work on the skin, lungs and air passages. This gives the sour wine odor in the breath of diabetics. The peculiar foul odor of the breath and skin in fœcal intoxication indicates that the mucous membrane of the mouth, throat, nose and gums is doing the elimination work that should have been done by the intestines. The failure of the kidneys to do their proper eliminatory work is apt to find expression in the skin, lungs, nose, mouth and gums. It is a matter of common observation that sugar and sweetened food is apt to ferment in the stomach and intestines. There are so many illustrations of the refusal of the system to utilize large amounts of sugar that we should take warning from them. They show that the consumption of candy can easily be carried too far.

FERMENTATION

Sugar, by which is understood the sugar of commerce, cane sugar, is one of the carbohydrates and like starch, is transformable into invert-sugar or glucose which is fermentable. It is open to three different fermentations; the alcoholic, the lactic acid and the acetic acid. The second or lactic acid is at present of greatest interest to the dentist, because to it is attributed the destruction of tooth substance that occurs in dental caries. How far this is true we do not at present know. Some still think that decay is entirely due to the action of lactic acid; while to others—myself included—conditions in decayed teeth are continually presenting themselves that cannot be explained in a satisfactory manner by the theory of Miller. It is for that reason that I take the liberty to present this paper in an effort to show why it is believed that an excessive consumption of sugar may bring on, or serve as a contributory cause, of caries, in an entirely different manner from that which we have been

taught; and that its action may be from the inside and not as we are generally led to believe, entirely from the outside, beginning at the enamel.

ACTION UPON TEETH

Explanations to account for the baneful effect of excessive sugar eating upon the teeth usually tend to show that ultimately, the oral secretion is modified or that substances develop in it that attack first the enamel and then the dentin.

A more recent hypothesis has been offered, however, based on the belief that faults of nutrition, or faulty metabolism is at the root of the evil; and that absence of lime in sufficient quantity in our daily food or excessive elimination of the same, from the body is the cause. This condition is believed to be due to the action of sugar, through its affinity for lime, or to a general acidosis of the system that may result from many causes, one of which is the excessive use of sugar, particularly amongst growing children.

12TH & BROADWAY.

(To be continued.)

THE SEPTIC WHEEL-BRUSH

BY R. R. C.

Dr. Feldman's indictment of the tooth-brush may be somewhat overdrawn, but if it is, it is on the safe side. He deserves credit for provoking discussion of that subject.

There is another brush that should be indicted and its use stopped, and that is the engine wheel-brush used by some dentists for the purpose of cleaning burs and broaches.

This rapidly revolving brush cleans (?) from the burs and broaches the filthy, septic débris that accumulates on them in their use and thoroughly distributes it in the air of the office breathed by the dentist and his patients.

A better way is to sterilize burs that are worth it and use broaches in but one case. Broaches are not expensive.

Whether a dentist uses this method or the brush-wheel is an indication of his intelligence.

A BETTER GOLD INLAY

By W. Goddard Sherman D.D.S., Providence, R. I.

There are numerous methods of constructing gold inlays, each perhaps possessing one or more points of superiority over another and yet by reason of some fault during the process, failing to produce a restoration which is perfect in every respect, especially at the margins.

I consider the margins of gold inlays or any other filling material the most important factor in effecting a successful operation.

Some of the contributory causes of so-called failures, I believe from observance, are:— inaccuracy of investment materials by expansion or contraction; amount and fineness of gold used in proportion to the size of the inlay; faulty impressions of cavities for indirect method and the peculiar manifestations of various kinds of inlay wax used for the direct method.

If the margins of the average gold fillings and inlays—especially cast inlays—be examined under a strong magnifying glass or by the use of a delicate explorer, a break in the continuity may be detected.

I believe the most accurate results in casting are obtained by the indirect method, using amalgam dies.

However, by the following method, which I have employed for some time, I find it possible to construct inlays surpassing those resulting from any other method, and also excelling gold fillings without endangering the enamel margins which spell "Success" or "Failure."

The following is the method and technic I have formulated.

The cavity should be prepared as per rule for inlays with walls diverging slightly more than for cast inlays. All enamel margins should be left sharp and well defined.

The cavity is now to be moistened or oiled and an impression taken with warmed modeling compound. The compound is then to be chilled and carefully removed and examined to see if all margins are clearly recorded in the impression. A bite in wax is then taken and patient dismissed.

A die of amalgam is made from the impression and by the aid of wax bite mounted on an anatomical articulator. From the amalgam die is taken any number of impressions in modeling compound until accuracy is assured. A cement die is then made and after being separated from the impression is invested in either modeling compound or plaster to strengthen the mass and protect any frail walls.

Gold foil is now to be packed into the cavity by hand pressure only and tooth restored to desired contour and occlusion.

Filling may be removed from cement die and tried-in in amalgam die from time to time to govern size, contour, etc.

Great care is to be exercised during packing against margins and quite a surplus should be used. A flat gold-burnisher is then to be used to aid in condensing the entire surface, following the rule of burnishing toward and not away from margins.

When filling is completed the cement die with filling in place is thoroughly dried out and then heated in a Bunsen flame until it assumes a cherry-red color.

The inlay when cool is placed in amalgam die properly seated and given final trimming, shaping and polishing except at margins where a fine feather edge is to be left. Inlay is now ready to be inserted for try-in in the mouth and if found correct (it will be correct if preparation of cavity and impression were correct) it is removed and preparations made for cementing. Depending upon the case, undercuts may or may not be necessary.

A thin, smooth mix of a good inlay cement is used after sterilizing and drying cavity and inlay is inserted to place with considerable hand pressure. *Do not use a mallet.* While the cement is still soft burnish the margins. The final finish may be given at this or a subsequent sitting. Use only very fine abrasives and avoid strips and discs as much as possible. The burnisher properly used for final finishing is the ideal instrument.

The result will be a gold inlay with margins nearer perfect than I believe possible to obtain with any other filling material or process. The gold is harder than a well condensed gold filling, yet soft enough to be easily manipulated at margins without evil results.

Of the advantages of this method it might be stated that for large restorations it is much easier for the patient and less tiresome for the operator with the added advantage that the inlay is practically finished when inserted, requiring only a final burnishing of margins.

By the use of this method where large gold fillings are indicated, more satisfactory operations will result and much time and energy will be saved.

171 Westminster St.

A Laboratory Hint.—When working with wax in the laboratory, use a large common school slate for a bench cover. It will catch all pieces and drops of melted wax and when removed leaves the bench clean and ready for the next work. Wax spots on a bench may be very annoying when gold work is being done.—*Pacific Dental Gazette.*

WRONGFUL DISCHARGE OF DENTIST

(*Georgia*) One who is employed as a dentist by a dental association or company, and who is discharged, has the right of electing either of three remedies: (1) He may bring an immediate action for any special injury received from the discharge; (2) He may wait until the expiration of the term for which he was employed, and sue for the entire amount due him under the contract; or (3) He may treat the contract as rescinded and seek to recover upon quantum meruit the value of the services actually performed. Reasonably construed, the present suit is an action to recover the value of the plaintiff's services for the entire term fixed by the contract, though it was brought before the expiration of the term; and a finding for the plaintiff was not supported by the evidence. Proof that the plaintiff was willing to perform the services for the unexpired part of the term, and that the value of the services as fixed by the contract amounted to $137.30 would not authorize a recovery of that amount, where it appeared that the suit was brought prior to the expiration of the term. (Continental Ass'n v. Lee, 85 S. E. 790.)

LIABILITY OF HOSPITAL FOR NEGLIGENCE IN CARING FOR PATIENTS

(*California*) Though the case of Wilbur v. Emergency Hospital decided by the District Court of Appeal of California turned on the sufficiency of the evidence, and makes no final determination of any very important legal questions, the facts are quite interesting, and under other circumstances might well involve matters of serious legal import. The action was instituted for recovery of damages for the death of plaintiff's 18 year old son, who, at the time of his decease, was a patient in defendant's hospital. He was suffering from an infected jaw bone and during the first week of his treatment was under the care of a special nurse, who devoted all her time to attending him. She prepared a solution of bichloride of mercury for use in disinfecting the thermometer with which she took her patient's temperature, and on leaving, at the end of a week, when it was thought that her services were no longer necessary, she left the mixture on a chiffonier in the patient's room. Sometime later, one of the hospital nurses entered the room and saw young Wilbur just getting back into bed, and was told by him that he had drunk the contents of the glass on the chiffonier. Antidotes were administered, and the young man, on being questioned, stated that he had no such feelings or symptoms as usually attend bichloride of mercury poisoning. He died about fifteen hours later. The court holds that the evidence is insufficient to show that his death resulted from swallowing the contents of the glass, and the circumstances and symptoms were just as consistent with the

theory that the liquid might have been thrown out of the window as with the drinking of it by deceased, and that his statements to the nurse were inadmissible as evidence that he actually drank the poison. (Wilbur v. Emergency Hospital, 154 Pac. 155.)

MINOR RESPONSIBLE FOR PROFESSIONAL SERVICES

(*Louisiana*) Where a minor, who has reached a stage of maturity calculated to deceive a person of ordinary prudence, deceives a dentist as to his age, and asserts that he is of full age, and induces the dentist to render him professional services, and accepts the benefits thereof, he cannot deny that he was of full age, and escape the obligation of the contract. (Lake v. Perry, 49 So. 569.)

CAN A SERVANT BE CONSIDERED IN THE EMPLOY OF HIS MASTER WHILE TAKING A HOLIDAY?

(*California*) A wealthy gentleman by the name of E. W. Cowell died in March, 1911, leaving a will which gave to all of the employees of a certain dental supply company in which he was interested, and who had been in said employ for twenty years, the sum of $1,000 each, "and to all who have worked over ten years the sum of $500 each; . . . In all cases these dates are as of January 1, 1911." Frank Tralago, claiming to be entitled to a portion under this provision, which was opposed partly on the ground that petitioner was not engaged in the employment of the designated company on January 1, 1911. It was conceded that this was a holiday, and petitioner was not actually at work. The evidence went to show that he had been paid off the day before, and did not again return to work for some little time after the first of the year. The Supreme Court of California passing on this question in In re Cowell's Estate, adjudges it as being rather too technical a construction of the will, as testator must have known that the day designated was a holiday, and could hardly have meant to defeat his own purpose of rewarding faithful employees by insertion of a condition which would make this impossible. Tralago was held entitled to a $500 share of testator's property. (In re Cowell's Estate, 149 Pac. 809.)

SALE OF DENTAL FIXTURES

(*Georgia*) Where, in a contract for the sale of dental office fixtures and supplies the purchaser agrees to make a partial cash payment and give notes for the balance, the seller to retain title until the full purchase money is paid, tender on the terms of the buyer's compliance with the contract will not have the effect of transferring the title to the purchaser. If the buyer refuses to make the partial payment and give the notes as

called for by the terms of sale, or to accept any possession or control of the property, no title passes to him, and the seller's remedy is not for the purchase price of the chattel, but for the breach of the contract. (Bridges & Murphy v. McFarland, 85 S. E. 856.)

EXTRACT FROM "A NEW METHOD OF CONSTRUCTING ARTIFICIAL DENTURES"*

By Doctor J. Allen, 1856

It may be interesting to dentists to-day to read what a prominent dentist published in book form, something over a half a century ago, for distribution to the public and for the instruction of the public in his particular line of work. Dr. Allen must have thought that the public knew a great deal about anatomy, because he does not hesitate to use technical terms freely, either for the purpose of instructing them or impressing them without instructing.—Editor.

THE FACE

"Is formed of different muscles, which give it shape and expression. These muscles rest upon the teeth and alveolar processes, which sustain them in their proper position.

"When the teeth are lost, and a consequent absorption of the alveolus takes place, the muscles fall in, or become sunken in a greater or less degree, according to the temperament of the person. If the lymphatic predominates, the change will be but slight. If nervous sanguine, it may be very great.

"There are four points of the face which the mere insertion of teeth does not always restore, viz: one upon each side, beneath the molar or cheek bone; and one upon each side of the base of the nose, in a line toward the front portion of the malar bone.

"The muscles situated upon the sides of the face, and which rest upon the molar or back teeth, are the Zygomaticus Major, Masseter, and Buccinator. The loss of the above teeth cause these muscles to fall in.

"The principle muscles which form the front portion of the face and lips are the Zygomaticus Minor, Levator labii superioris alaeque nasi and Orbicularis oris.

"These rest upon the front, eye, and Bicuspid teeth; which, when lost, allow the muscles to sink in, thereby changing the form and expression of the mouth.

"The insertion of the front teeth, will, in a great measure bring out the lips, but there are two muscles in the front portion of the face which cannot, in many cases, be thus restored to their original position; one

*Courtesy of C. A. Heller.

is the Zygomaticus minor, which arises from the front part of the malar bone, and is inserted into the upper lip above the angle of the mouth. The other is the Levator labii superioris alaeque nasi, which arises from the nasal process and from the edge of the orbit above the infra-orbital foramen. It is inserted into the ala nasi or wing of the nose and upper lip.

"The attachments before mentioned, applied to these four points of the face, beneath the muscles just described, bring out that narrowness and sunken expression about the upper lip, and cheeks, to the same breadth and fulness which they formerly displayed, thus restoring the original, pleasing and natural expression. These attachments for restoring the form of the face were first constructed by the subscriber, some eight years since, and they have been constantly worn by various persons with ease and comfort ever since that period. They were first formed of gold plates by being stamped to the requisite form, and attached to the main plate and teeth. The plates are now covered with the compound, of which the artificial gum is formed, and which renders the denture, when thus constructed, far more perfect than the previous mode.

"The perfection to which this style of work has been brought by the Author, has induced him to devote his exclusive attention to the construction of full and partial Sets of Teeth; in doing which he pledges himself to carry out faithfully the principles here set forth."

J. ALLEN,
No. 30 Bond Street, New York.

Editor DENTAL DIGEST:

My little daughter is two and a half years old and has only 10 teeth, 4 upper incisors and 2 molars and only the two lower incisors and 2 molars. She has not been sick, but is nervous, fidgety and will not sleep all night. She was just 16 months old before she had a tooth. I can see where the unerupted teeth are, but am at a loss to explain just why they do not erupt. Her appetite is good but the poor "kid" cannot properly masticate her food.

Now what can be done to help these teeth erupt? I do not think to lance the gums would help, owing to the thickness of gum tissue.

Trusting some one can explain about the delayed eruption of the teeth of the two and a half year old girl, I am,

Fraternally yours,

M.

FOOD FOR DENTISTS

By Watson W. Eldridge, M.D., New Rochelle, N. Y.

The author of this paper is particularly well fitted to write upon ailments arising in the alimentary canal. He is a member of the Gastro-enterological Clinic of New York University and Bellevue Medical College, and comes into contact with many cases of systemic depression arising from lowered tone and impaired function in the intestines.

He has prepared this paper by my request because I am growing more and more to realize the importance of maintaining health and efficiency, and the necessity of physiological exercise to this end.—Editor.

INFLUENCE OF THE HABITS OF THE DENTIST ON THE HEALTH OF THE ALIMENTARY TRACT

FIRST PAPER

Are you lazy? Do you often feel that to-day's work is too great an effort to be undertaken? When you are bent over a patient do you sometimes feel that it would be a relief just to sit down and do nothing? Do you become restless and want to do something else, anything, except that which you are doing? Do you enjoy your meals or do you eat mechanically, or worse still do you often feel that food is repulsive? Does your night's sleep refresh you or do you arise in the morning feeling tired and unfit and unprepared to cope with the day's work?

ONE SOURCE OF LAZINESS

Such lack of vitality as has been described above may result from lack of tone in the intestinal tract, from incomplete digestion and the absorption into the body of intestinal poisons. It may be corrected by physiological stimulation of the weakened functions.

The normal functioning of the alimentary tract is chiefly dependent on four things, i. e., muscular tone, digestive secretions, proper position of the various parts of the tract, and proper food intake. The first three of these cardinal factors are influenced both separately and collectively by a number of conditions which are under the control of the individual. One of the chief of these conditions would seem to be of especial interest to dentists because of its close connection with their occupation. It is that of "sedentary habit."

SEDENTARY HABIT, TOXEMIA AND GROUCHES

"Sedentary habit" is present in the history of practically all cases of fecal stasis or of intestinal toxemia, which come under observation. The profession of dentistry falls undoubtedly into the class of sedentary

occupations. The dentist spends all of his producing hours indoors, and in the larger part of them he is working in an uncomfortable, cramped, position, over the operating chair or the laboratory table. Fresh air and exercise form practically no part of his daily routine. His field of operation is extremely narrow and limited, affording him none of the opportunity for systemic prophylaxis that comes to the man whose occupation requires activity in the great outdoors.

"Sedentary habit" once begun, rapidly develops into a vicious circle, and unless the individual is forewarned and takes pains to combat this development he will sooner or later drift into that class of pitied specimens known as dyspeptics—hypochondriacs or just plain "grouches."

LIMITED EXERCISE AND THE VICIOUS SPIRAL

Let us follow, for a moment, this vicious circle of which we have spoken, and watch its development. Let us suppose that practically all of the time for a week or more the dentist has been indoors, busy over his operating chair during the larger part of his working hours. The exercise which he has taken consisted of the trips between office and reception room, between home and office which are usually situated in comparative proximity, movements in the abbreviated radius of the operating room or laboratory, and an occasional trip to the theatre in the evening, perhaps made in the stuffy atmosphere of a public conveyance. Exercise of this sort has required little muscular activity. What there is has been confined to a very limited group of muscles and has therefore been little better than no exercise at all. Muscles constitute about half the body weight and what takes place in them profoundly influences the remainder of the body organs. Lack of "muscular metabolism," if I may use that expression, naturally follows absence of muscular exercise, much to the detriment of the rest of the body. As the result of lack of exercise the dentist's muscular tone often becomes subnormal and by its influence on the rest of the body causes a lowering in tone of the musculature of the intestinal tract. Peristalsis is delayed and weakened as is also the secretion of the digestive juices. The food mass, which should have been excreted within about seventy hours from the time of ingestion is still in the intestinal tract. It has long since undergone complete or partial digestion and the residue which has no nutritive value should have been eliminated. Remaining in the large intestine, it frequently forms a splendid culture media for all sorts of microorganisms among which are some of the putrefactive enzymes. These agents become active and produce chemical changes in the fecal mass which liberate toxins of various kinds. These are absorbed and sent, via the circulation, all over the body, affecting the different organs and

centres in a manner which impairs their functional activity. Digestion which is already poor through the slowing up of the necessary functional activities due to lack of exercise, becomes poorer. The appetite fails or disappears. The individual becomes easily fatigued and complains of feeling mentally and physically lazy.

THE WAY OUT

The natural, physiological and most beneficial prophylactic and corrective of this condition is to take sufficient exercise involving the whole body, and in fresh air outdoors. This will restore and maintain good general muscular tone and through that proper tonicity of the intestinal musculature. A game of tennis or golf, a "hike" or rowing is better than any artificial stimulation.

Physical exercise is much more than simply a means of developing muscular strength. Forty-two per cent. of the body weight is made up of muscles, and their activity very greatly influences all the rest of the body organs. Exercise strengthens the heart and blood vessels which are called on to send more blood to the working muscles. It deepens the respiration as the lungs are called on for more work. It improves the appetite and helps the body to get rid of waste products. It makes the brain clearer and the spirits lighter.

Every one should provide for some form of regular physical exercise if his work does not require energetic muscular effort. Exercise in the open air such as walking, not loitering, snow shoeing, skating, riding, and games of various sorts are ideal ways of keeping the muscular system and the whole body in good working order.

The exercise must not, however, be too strenuous. It must not be carried past the point of moderate fatigue and must not be violent in character. The one extreme of too violent exercise is as undesirable as the other extreme of too little.

THE BODY AS A FURNACE

The human body must be regarded as in much the same light as the household furnace. As with the furnace, the fuel must be fed at regular intervals and it must be of the proper kind, but, of equal importance, is the timely removal of the ashes, in the proper manner. Let the ashes remain in the fire bed and the function of the furnace becomes greatly impaired. The draught is obstructed and the heat of the fire become progressively less. The situation in the human body, when proper care is not taken to establish a metabolic equilibrium, becomes quite analagous to that in the furnace.

It may be argued that cathartics and laxatives can be used as re-

quired to establish entero-colonic activity, but the answer to this is that this means affords only temporary relief at best, its final result being the development of the cathartic habit, which is as bad or worse than the sedentary habit. A function which should be normal and will respond to natural causes, cannot be activated indefinitely with artificial stimuli.

Take the right amount of exercise, regularly, and it is not likely you will have any need for other therapeusis. You will feel better, look better and be better. The chief causes of your complaints will disappear.

(*To be continued*)

AN ORIGINAL LETTER TO A DENTIST*

DR. G.—— M., ILL., Oct. 9th 1905.

DEAR SIR:

I find of a necesary that I must have some thing did to my teeth, I Can not say just what, or weather any more than good advice, but providing I shall make up my mind to have any teeth Extracted, Can you have yourself provided with a positively, I was going to say painless article. a gum freezer to make num. Can this be did under any circumstance. Or is it a say say, saying.

I have of course had teeth extracted at times successfully so far as that work was did. but so severe pain. As my nerve system has been so shocked for years this is why I want to know if can be in tirly over come without taking gas, which I should prefir not to do.

I have had this past week an other dreadful attact of mewralga caused by catching cold in these teeth, they are no how whole any more. a number with the crumbling tops intirley gon; and yet they are aparently implanted in the jaw generally solid as rocks, this is why I fear and dread the process, if they was loose & rigley I should not hesitate. I will probley place in my order for Friday perhaps a bout half past ten. I mean an order to taulk with you if you are not busey. I am trying to draw the information nice as I can so there will not be so much swelling and soarness. in this spell it reach such a degree at one tooth Root as to cause an abcess to form which, came to a head, on the gum in side. You may conclude of course that I suffered much Pain in this. and to press on the gum at this place feels as if there was a sack or cusion like. this I hope to have in better shape By Friday. I do not know sure but think this was the Eye tooth as we call it.

I wish they was in the Bottom of the Sea any way.

We hope you are all well.

I will try and kep up courage to come and see you any way.

Respfully Yours

*Name withheld by request.

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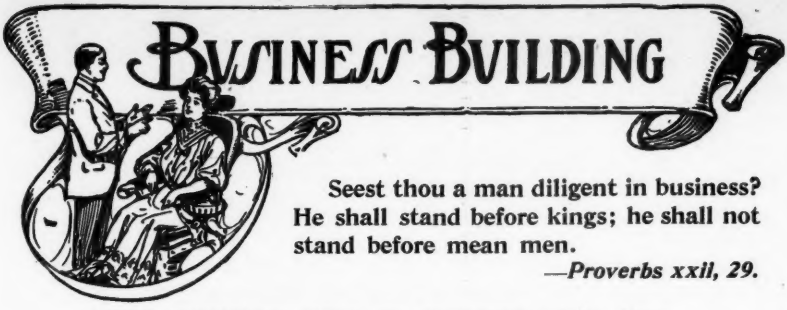


Seest thou a man diligent in business? He shall stand before kings; he shall not stand before mean men.

—Proverbs xxii, 29.

THE BUSINESS SIDE OF PROPHYLACTIC AND RESTORATIVE PRACTICE*

By W. F. Spies, D.D.S., and George Wood Clapp, D.D.S., New York

RESTORATIVE DENTISTRY

THIRD PAPER

By restorative work is here meant all those operations which are employed in restoring the natural teeth to a condition of masticating efficiency, and replacing lost teeth. This includes the treatment and filling of roots when necessary, the restoration of crowns to proper contact with adjacent teeth and articulation with opposing teeth, either by means of fillings or porcelain or gold crowns.

It is obvious that in making records for this sort of service, some standard of excellence must be established, since these operations may be performed in much less time if the quality of service is not to be considered. Thus if roots are to be carelessly or hurriedly treated, if inlays or crowns are not to be contoured to contact and carved to articulating and masticating efficiency, the cost of each operation will be much less. It is of little use to estimate on the cost of an inferior quality of service, since it usually brings the mouth to a worse condition than the first, within a brief period of time.

A SCHEME FOR COMPUTING COSTS OF RESTORATIVE OPERATIONS

Our experience in the relatively new field of keeping accurate costs of dental operations has enabled us to devise classifications which we believe may be adopted by dentists generally to the end that the costs of operations may be computed by different dentists on a similar basis. This permits comparison between different computations to the benefit of all.

As in most other activities, we have learned only by experience, and while we are now computing costs according to this classification, there are numerous items concerning which we have no data. We hope to be

*This article began in the January 1916 number.

able to offer such data in the future, and in the meantime shall be glad to have the coöperation of all dentists who desire to see some intelligent classification for costs generally adopted.

PULP EXTIRPATION AND ROOT FILLING

This class of work presents three general divisions—one in which the pulp must be removed from a sound tooth that it may be used as an abutment, another in which decay is present without exposure, and a third in which there is an exposed or putrescent pulp. In cases of inflamed pulps, palliative treatment may be necessary before devitalization and post-operative treatment after extirpation. Illustration No. 4 presents the three conditions of the teeth and it is believed that the form below it enables the dentist to record the time of each step of the operation. He can then compute the cost by multiplying the income-hour fee by the time.

Fig. 4. Illustration and form

(1)

TIME REPORT:

1. Palliative Tr. . .	4. Extirpate	7. Number of Cases .
2. Appl. As. . . .	5. Post Tr.	8. Average Time . .
3. Pressure Anes. . .	6. Filling	9. Average Cost . .

(Incisors, Bicuspids and Molars).

*Our records at present show the following:

No. 8. Devitalizing healthy anterior teeth for abutments, no cavities. Forty-eight cases from three dentists. Total time for all cases 42 hours, divided as follows:

Application of Arsenious Acid and pressure anesthesia	12 hours
Removals of pulps and post-operative treatment	17 "
Filling roots	13 "
	42 hours

Average time 52 minutes. In each of these cases a cavity was drilled into the sound tooth structure and Arsenious Acid sealed in from 24 to 48 hours. An exposure of the pulp was then made, pressure anesthesia applied, the pulp removed. Cost as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . .	1.30	1.91	2.60	3.38	4.16

*The numbers given to these operations correspond to the numbers in Chapter 16, "Profitable Practice," from which they are taken.

No. 10. Soothing pulpitis, removing anterior pulps, filling canals. Forty-one cases from 30 dentists. Average time 45 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	4.89
Average cost . .	1.12	1.63	2.25	2.92	3.50

No. 7. Devitalizing healthy anterior teeth and filling roots, no exposure, pressure anesthesia. Sixty cases from 50 dentists. Average time 30 minutes. The records do not show whether or not there were cavities in the teeth, and to this extent are indefinite. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	.72	1.11	1.56	1.97	2.44

No. 9. Removal of exposed, anterior pulps, not inflamed, pressure anesthesia, filling canals. 59 cases from 50 dentists. Average time 25 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	.62	.75	1.25	1.62	2.00

No. 11. Treating putrescent anterior canals and filling roots. 53 cases from 46 dentists. Average time 1 hour and 15 minutes. Average cost as per table.

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	1.87	2.25	3.75	4.85	6.00

Technic same as No. 8, 20 bicuspids from three dentists.

Application of Arsenious Acid and pressure anesthesia	5 hours
Extirpation and post-operative treatment	12 "
Root filling	9 "

Average time 1 hour 18 minutes. Cost as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	1.95	2.34	3.90	5.07	6.24

No. 12. Removing healthy bicuspid and molar pulps. 218 cases from 60 dentists. Average time 65 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	1.62	1.95	3.25	4.22	5.20

Technic same as No. 8, 12 molars from 3 dentists.

Application of Arsenious Acid and pressure anesthesia	7 hours
Extirpation of pulps and post-operative treatment	7 "
Root filling	8 "

Average time 1 hour and 50 minutes. Cost as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	2.75	4.07	5.50	7.15	8.80

No. 13. Treating putrescent molars and filling roots. 92 cases from 40 dentists. Average time 1 hour and 45 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	2.62	3.85	5.25	7.15	8.80

No. 15. Treating putrescent molars, filling roots, filling crowns with amalgam. 49 cases from 40 dentists. Average time 2 hours, 10 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	3.25	3.90	6.50	8.45	10.40

No. 16. Treating putrescent teeth, kind of teeth and care in treatment not specified. 93 cases, 20 dentists. Average time 1 hour, 25 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	2.12	3.11	4.25	5.52	6.80

CLASSIFICATION OF CAVITIES

It is believed advisable to follow the cavity classification of Dr. Thos. E. Weeks, as given in the *American Text-book of Operative Dentistry*. The illustrations are doubtless sufficient without description.

5 6 7 8 9

Illus. No. 4. Fillings in simple cavities

TIME REPORT:

1. Cav. Prep . . . . . .
2. Introduction . . . . . .
3. Wax model . . . . . .
4. Laboratory . . . . . .

(Gold, Foil, Inlay, Alloy, and Cement)

5. Number of cases . . . . . .
6. Average time . . . . . .
7. Average material . . . . . .
8. Average cost . . . . . .

Our records at present show the following:

No. 25. Simple amalgam or cement fillings. 473 cases from 65 dentists. Average time 25 minutes. Costs as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	.62	.89	1.25	1.62	2.00

The term "simple" is here employed to describe a filling involving only one surface of a tooth. No records of the care exercised in any of the steps are available. Three hundred and nineteen of these fillings were reported as averaging 30 minutes, but 87 were reported by one dentist as requiring only 10 minutes each, which reduced the general average. Such variation in records emphasizes the fact that each dentist should compile his own time records as a basis for his own minimum fees.

No. 30. Simple gold foil fillings. 42 cases from 15 dentists. Average time 30 minutes. Costs, exclusive of gold, as per following table.

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	.72	1.11	1.56	1.97	2.44

No. 32. Simple gold inlays. 72 cases from 40 dentists. Average time 1 hour, 20 minutes. Costs, exclusive of gold, as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	2.00	2.96	4.00	5.20	6.40

10 11 12

Illus. No. 5. Fillings in compound cavities

TIME REPORT:

1. Cav. Prep. . . . . 5. Number of cases . . . . . .
2. Introduction . . . . . 6. Average time . . . . . .
3. Wax model . . . . . 7. Average Material . . . . . .
4. Laboratory . . . . . 8. Average cost . . . . . .

(Gold, Foil, Inlay, Alloy, and Cement)

No. 26. Compound amalgam and cement fillings. 161 cases from 60 dentists. Average time 45 minutes. Costs, as per table following. The term "compound" is here employed to indicate a filling restoring two or more surfaces of a tooth.

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	1.12	1.63	2.25	2.92	3.60

No. 33. Compound gold inlays. 95 cases from 10 dentists. Average time, 1 hour 55 minutes. Cost, exclusive of gold, as per table following.

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	2.87	4.22	5.75	7.47	9.20

No. 34. Extensive gold inlays, character not otherwise specified, 16 cases, average time 3 hours, 20 minutes. Costs, exclusive of gold, as per table following:

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . .	5.00	7.40	10.00	13.00	16.00

No. 35. Finely carved and contoured gold inlays in bicuspids and molars. 52 cases from one dentist. Average time, 2 hours 45 minutes. Costs, exclusive of gold as per table following. The gold cost, on the average, $1.20 per inlay.

	Class I	Class II	Class III	Class IV	Class V
Minimum hourly fee	$1.45	$2.22	$3.13	$3.94	$4.89
Average cost . . .	4.12	6.07	8.25	10.72	13.20

To be continued.

Editor DENTAL DIGEST:

In the various articles pro and con on dental advertising as published in the DIGEST the past year, one point seems to have been missed. Suppose it were perfectly legitimate for all dentists to advertise and all dentists did so, what advantage would one have over another? If one were not capable of good advertising could he not revert to a professional advertisement writer and thus do as good advertising as the other fellow, and all advertising being equal would there not be a large expense thus added to the dental profession without any advantage to any one party? Any dentist of good morals, of fair workmenship, attentive to business, associating with only the best of associates and being conspicuous in public affairs need not even see wolf tracks within a hundred miles of his office or home, and a country crossroads may be his place of business. I might add that a man of good morals is necessarily one clean in person and office.

Any author of an article written the past year in the DIGEST complaining of poor business and professional abuse by the other fellow can diagnose his case in these last few lines and **can if he will** prescribe for himself successfully.

One who has been through the mill and did diagnose himself.

R. A. W.

DENTISTRY FROM A FINANCIAL ASPECT*

By Percy A. Ash, D.D.S.

Editor "Commonwealth Dental Review," Lecturer and Examiner University of Sydney, Etc.

The dentist who, so to speak, can only do what he was actually taught while at college will be a partial, if not a complete, failure. There is probably no vocation which affords so much scope for personal ingenuity as the mechanical side of dentistry. Think of the many cases presented to you which are quite different to any you have seen before. Each must be dealt with entirely in its own merits. Fixed and removable bridges, vulcanite and metal plates, inlay abutments, and many other methods immediately flit through your mind, and upon your ability to grasp quickly and intelligently all the alternatives, and eventually decide on the one which will give the best service, combined with the greatest comfort, will depend the measure of success which you have in practice.

Dentistry cannot always be carried out on the definite lines set out in books any more than particular business enterprises can invariably be built up on the old-fashioned lines. Braddon, again, on this point says, "A torpid mind, fatal in business, will cling desperately to the established methods. Hating change, a quick, original mind will always be ready at any rate to weigh new ideas and to sympathetically appreciate the possibilities of suggested innovations."

There are many details in connection with the conduct of a dental practice which count for a great deal, and are often neglected, either through carelessness or the lack of a proper knowledge of the fitness of things. If a patient telephones for an appointment, and especially if he asks for a definite time which will suit his convenience, is it not worth while to personally speak to him after your secretary has taken the message, and arrange something suitable to him? It gives him an excellent impression of the interest you take in those who consult you. If a friend sends a patient to you, surely the first thing to do is to thank him for his kindness; the omission of it is an unpardonable offence. When a new patient arrives at your rooms, spare a moment to greet him yourself, and, if he is there by appointment, do not keep him waiting; in any case, if he is in pain, assure him that, irrespective of inconvenience to yourself, you will see him within a few minutes and endeavor to make him comfortable. Many such small matters might be mentioned which are frequently overlooked. There is no room in the dental profession for the man who is casual; he must be ever on the alert, and make the most of every chance. Those who, in other walks of life as well as our own, ex-

*Continued from February Digest.

cuse their failures on the ground that business generally is bad and money scarce, are very often themselves to blame. It is idle to talk of the good old times which will never return. The world is full of opportunities; they come knocking at our doors every day. The quick and intelligent man takes hold of them, the pessimist fails to see them, while the drone does not trouble himself one way or the other.

A feature of great importance in any business or profession is the ability to properly conduct correspondence. Few things are noticed more by an educated man than the receipt of a letter badly constructed and with faulty spelling. Bear in mind that professional men are expected to be educated to the extent, at least, that they can correctly express themselves in the language they speak. It is regrettable to have to admit that there are very many who cannot; and here let me say that they should fill in all the spare time at their disposal in improving themselves in that direction. It is no disgrace that through force of circumstances one has not had the advantages of a good education in early life, but it is unpardonable not to try and make up the deficiency later when one has the means at his disposal. Surely the ability to properly speak and capably state one's thoughts on paper is one of the essentials toward success; it certainly is one of the greatest assets which a man can have who intends to follow an occupation in life which will bring him in personal contact with people of refinement, and I presume that all of us aspire to have that class of people for our patients. It is a constant source of surprise to me why so many comparatively young men seriously lacking in this way do not spend some of their evenings attending classes of instruction, or else studying in private with capable tutors.

The point I want to make in mentioning such matters as these is that very many of us are either wilfully or unconsciously blind to our own shortcomings, and, as a result, we have to suffer. In other words, we fail for one reason or another to take accurate stock of ourselves. We are ready enough to pronounce that some other class of business failed because the manager of it was incompetent; but for our own failures, we lay the blame anywhere but at our own doors. It is no use attempting to decry the successful practitioner on the other side of the street by saying that you are as good a man as he is, and that your professional qualifications were obtained at schools equal in standard to those where he took his degrees, for the fact remains that he has succeeded and you have failed. The thing to do is to ascertain accurately his personal qualities, and then compare his methods of conducting a practice with your own. Many of us have attractive points which have never been developed. A good plan would be to spend some of the money we otherwise waste in seeking the help of those competent to bring out those latent qualities to the best

advantage. Money is given us to make good use of, and surely it can be put to few better purposes than to assist in the development of character and those many personal accomplishments essential to success.

Someone has written that the way to succeed is to work hard and advertise. The necessity for hard work, especially in these exceptional times of war and distress, when it is gradually becoming a more difficult problem to make two ends meet, is beyond argument; but the question of advertising is one that is, and always will be, open to much contention in so far as professional men are concerned. The style so objectionable is the hideous signboard or the flaring announcement in public print, more especially when statements are made not in accordance with fact. It has been said that the advertising which never shows in a magazine or on a signboard has more influence on individual lives than all the wonderful public array of words with which we are all so familiar. What constitutes legitimate advertising within the profession of dentistry is a matter too large to go into this evening. Each man must decide for himself, but let him make his decision, if possible, after closely studying the methods of practitioners who have built up successful practices upon lines recognized by all around them to be highly ethical.

It may appear to some members of the profession that my remarks so far have consisted largely of platitudes and preaching. They may say that they already know all I have remarked, and have found it of no avail. They may also say that they have read the sayings of philosophers and commercial magnates, and have found them of no practical use. That is just the point I wanted to lead up to. If some of us have heard and read these wise words, uttered in many instances by men who have climbed to the top of the tree, and have not found them a help on the road to success in practice, well, then, we should be brave enough to look the whole matter squarely in the face, admit that we have missed our vocation in life, and then, with that energy and determination which characterizes the British race, relinquish dentistry and try our fortunes elsewhere. That is the sum total of the whole argument, and there is no need to speak further upon it.

BANKING ACCOUNTS

No person whose financial transactions amount to any sum worth mentioning should fail to have a current banking account. Very many people get their monetary affairs into a state of chaos by keeping their accounts in their pockets, so to speak. We shall again take the case of the careless professional man who does not understand bookkeeping, and thinks that a bank pass book will be a nuisance to him. Rather than employ an accountant, he simply receives and pays out his money as occa-

sion arises. A patient pays him ten guineas, which he puts into his pocket. An hour or two later a tradesman calls with a bill for £5-10-6. He pays it out of the ten guineas he has received, and simply puts the receipt on a file. He receives and pays money in the same manner month after month, and so long as he can put his hand in his pocket for what he wants, he is satisfied that he is keeping on the right side. He probably notes down on scraps of paper what patients owe him, but keeps no accurate records of his own debts, and therefore frequently receives more or less of a shock when his creditors present him with statements of their claims. If he happens to have sufficient money about him when one of them calls, he will perhaps pay on the spot; if not, he will say to call again. It is quite certain that a man with a practice or business of any extent cannot ascertain at short notice how he stands without keeping proper accounts, and it is also certain that, with the methods of exchange as we have them now, he cannot conduct his affairs satisfactorily without keeping an account at a bank. In making this last remark, I have particularly in mind the system of giving cheques. In Australia, especially, the custom of settlement by cheque, instead of bank notes or coin of the realm, has now become so firmly established that one is practically forced to adopt the system, and the adoption of it necessitates, of course, a banking account. Whether you pay all your own debts in cash or not, you will find that the great majority of other business people do not. They will pay you by cheque, and how are you to get value for those cheques unless you pass them through your banking account. To be sure, some few of them may be "open" cheques and be drawn on the local bank, in which case you or your secretary could obtain cash over the counter; but by far the greater number will be "crossed" or drawn on a bank away from the part in which you reside. By an "open" cheque is meant one that is payable to the bearer of it, that is not crossed, not made specially payable to any particular person, or restricted in any way; in other words, a cheque which, if picked up by a stranger, or even stolen, is payable to the person who presents it, provided, of course, the drawer has sufficient funds to meet it. Any drawer of a cheque has the right to request his bank to refuse payment of it if, for instance, it has been stolen or lost; but, at the same time, it is very questionable if the bank could be held liable should it pay the same by mistake, assuming that it was properly drawn; in fact, a bank always requires a written request to stop payment, and a clause is usually embodied in that request to the effect that the bank shall be held harmless in the event of the cheque being paid in error. Also, the instructions to stop payment will not hold good against any person who has obtained it in good faith and given value for it. Such a person can recover either from the bank or the drawer.

If, then, you decide to keep a bank account, it is most important that all money you receive in connection with your business transactions passes through that account—not merely the cheques and the larger amounts in notes and gold, but the humble odd half-crowns also. On the other hand, let all your payments be by cheque or out of some loose cash which you have on hand, but which forms part of a previous amount which you drew out for sundry current expenses. As you will be constantly disbursing small sums for one purpose or another, it is well to draw a cheque for, say, £5 for petty cash, and get change for it, to be paid out as required. If you care to keep a record of all the trifles so paid out, for your own information, well and good, but it will not affect the balancing of your bank account. Many practitioners (myself included) do not worry over the details of petty cash. If you keep the amount for that purpose in your own pocket, you will know that it all has been rightly disposed of; but if your secretary has charge of it and you have authorized her to use it, as necessary, without special reference to you on each occasion, then it would be better for her to keep a record of all payments, as much for her own satisfaction as for your information.

If you understand little or nothing in regard to keeping and balancing a proper cash book kept free of charge to yourself. Each customer is entitled to receive from the bank a pass book, which sets out proper details of all amounts received and paid away. If, therefore, you pay all you receive into your account, and draw cheques for all you want, you can, by merely obtaining your pass book from time to time, ascertain exactly how you stand; that is to say, you would go through the book, check the amounts charged against you with those in the butts of your cheque book, and then, allowing for any cheque unpresented, merely subtract the one side from the other. It is better, under such circumstances, to draw your cheques in favor of the persons you pay, or else the name of the goods you are obtaining instead of in favor of numbers, as at any time you will then be able to search through your pass book and ascertain the amount of money you have paid to particular persons or for specific goods within a given time.

Bear in mind that cheques are not a legal tender, but the custom of giving them has now become so firmly established that few persons refuse genuine ones in the ordinary course of business. It would be as well to say a few words here regarding the use of cheques, particularly in reference to restricting the negotiability of them, as this is a subject of which the average man knows comparatively little, and one which he should fully understand, for he probably adopts the practice in some way or other very frequently.

A "cheque" may be defined as a draft or order for money payable to

bearer, drawn on a banker; or, to give a definition in legal phraseology, it is an order upon a bank by a customer requesting the bank to pay a sum of money on demand to the person named, or to his order, or to the bearer of the cheque. Note the last few words of this definition very carefully, as they carry a great deal of meaning. The request to the bank is to pay the amount to the person named, or to his order, or to the bearer of the cheque. You will remember that the usual cheque form runs, "Pay.....or bearer." The drawer is at perfect liberty to place in the intervening space a number, the name of any person, the words "self," "cash," or any others he wishes and, so long as he does not strike out the word "bearer," the amount is payable to anyone. If the word "bearer" is struck out and "order" written above it, the payee (that is the person in whose favor the cheque is drawn) must endorse it. Strictly speaking, the payee should authorize the bank by written order on the back of the cheque, to pay the money to a third party, if he wishes that done; but the custom has become firmly established, and now has the force of law, for the payee to merely sign his name on the back (i. e., to endorse). Care must be taken to see that the endorsement corresponds with the name as written on the front. If, for instance, the cheque is drawn in favor of James R. Williams, it must be endorsed that way. It may be that the payee's correct name is John R. Williams (the mistake being on the part of the drawer), in which case the endorsement should be "James R. Williams," with the correct signature following underneath. In such cases, however, should the endorsement not be exactly the same as on the front, the bank may, of its own knowledge, be sure that the cheque has passed into the right hands and may certify to that effect by writing under the signature "endorsement satisfactory," and then either pay it if drawn on that office, or else forward it to its destination. The same conditions apply if the word "bearer" is struck out without writing "order" above. It is obviously wrong, as is sometimes done by inexperienced persons, to draw a cheque in favor of a number or anything in abstract terms, and strike out "bearer," as in such case no endorsement can be required.

There is one point in connection with the matter which must not be overlooked. Many people think that if they draw a cheque in favor of a person and strike out "bearer," it devolves upon the bank to be satisfied that the endorsement is actually the signature of the payee, thus being assured that the cheque, at least, had passed through his hands. That is not so. In New South Wales, at all events, if the endorsement purports to be the same as on the face, the banker is justified in paying the cheque; in other words, if the cheque is drawn in favor of E. C. Forsathe and "E. C. Forsathe" appears on the back of it when presented

for payment, the banker's responsibility ends there. There is considerable protection in the system, however, inasmuch as if anyone has come by the cheque dishonestly, and writes the payee's name on the back, he is guilty of forgery, and will be dealt with accordingly.

Should a cheque be stolen the owner will naturally make all the effort he can to recover it; but if it has passed into the hands of an innocent holder who, in the course of legitimate business, has given value for it, that holder can, as I have indicated previously, insist upon payment to himself by the bank, provided the cheque is properly drawn and otherwise in order when presented.—*The Australian Journal of Dentistry.*

"JOSH" COMES BACK

Below we reproduce answers we have received to the article which appeared last month and was signed "Country Dentist" in which the Podunk individual says, "What are you going to do when they say they can get crowns from the other fellow for $5.00?" Read this answer; it's worth the time.

TO "COUNTRY DENTIST"

I am practising in the country and I formerly "charged them at the gate." I did a big business; the rough necks and K. M.'s were all for me and they loudly sang my praises. At the end of each year of this kind of practising I found that there was very little left for "doc" after the bills had been paid.

Little "Doc Fist" across the street still puts on his bridge work at four dollars per, but I have changed my plan of doing business entirely and I do not have time to worry about the fellow practitioner. There is not a set fee in this office and all work is priced from the minimum up, with the accent very decidedly on the up. The first thing that is discussed when the patient enters the office is the fee, and of course the service is rendered according to the fee. There are plenty of people in a country town who will pay a fee that will entitle them to receive real dental work, but it is a question of salesmanship and enlightening them along the line of the different methods of doing this work. Use sample work and with this work use some salesmanship. No sane person would expect you to place a cast crown for the same price as a plier crown made in twenty minutes. This holds true of your operative work. Of course you can "put in a silver filling" and let them slip you a dollar, or you can discuss this matter with the patient before the operation, and quite likely you make an amalgam restoration for three dollars. Ignorance of the

laity causes the trouble with the fee question and it is not so much the fault of the "fellow across the street." Try it, doctor, it won't do any harm to tell them that you can give them something better for more money. Amalgam properly placed and polished is worth more than a dollar and, honestly, that is about the only reason so much of the amalgam is not polished and properly finished. Get the flat fee out of your head. I do not wish to pose as a braggard and do not wish to do any vainglorious boasting, so the editor will allow me to sign "JOSH."

Curtis, Neb., Jan. 1, 1916.—Dr. J. M. Prime, Omaha, Neb.—Dear Doctor: I can not help but comment on what the "Country Dentist" has to say in regard to fees. He wants to know how to get more than $5 for a crown, when his competitor, or colleague rather, gets $5. Then, after he asks how, he turns around and says it can not be done. He don't care who says so. He reminds me of the Irishman who went to the circus to see a camel. He had heard about them, but had never seen one. When he saw it he turned to Pat and said, "Oh, hell, there ain't no such animal as that."

It evidently seems that this country dentist is in a rut and is destined to stay there until the cows come home. Some day, though, he may wake up and some one may be able to show him wherein he is wrong. At this time, however, it would be a waste of time and space.

Yours truly,

L. A. CHAMBERLIN.

THE COUNTRY DENTIST

My Dear Brother: I do not know who you are, but truly, I want to know you. Firstly, I shall say, "Let there be light, And there was light." Secondly, I want you to know that my feeling toward any man who will endeavor daily to perform an impossibility is one of love and pity. Will you kindly permit me to know you that I may have the privilege of helping you? There isn't anything in my heart except to be of service to my fellow brother.

I shall expect to see your name given me in next month's *Journal*, after which I shall answer your questions to the best of my ability.

Truly and sincerely,

WILLIAM L. SHEARER.

ANSWER TO COUNTRY DENTIST

In your reply, Mr. Country Dentist, to Dr. Shearer's article in Practical Hints in the November *Journal*, you ask what you would do when a farmer comes in your office and wants a gold crown for $5 when your

charge for a crown is $6 and another man comes in and wants a plate for $10 when your price is $15.

I will tell you what I would do and what I do do. I would step back and look Mr. Farmer square in the eye and give him one of the biggest talks on first class dentistry he ever heard and I would tell him the difference between a $5 tin can crown made from some faker's die plate and a real sure enough crown which you have properly fitted around the gingivae, contoured and carved to occlusion, and nine out of ten he will pay you your price and be a booster instead of a knocker. The farmer of to-day is not the farmer of yesterday any more than the dentist of to-day is the dentist of yesterday, and they are willing to pay for anything if they are not being held up.

After you give Mr. Farmer this talk, go into your laboratory and heave your die plates out of the window (using care not to strike the head of some passerby) and get to work and make good your talk to Mr. Farmer and show him the difference between your crowns and a $5 crown. If you don't happen to have one on hand you will usually find one in his mouth, and that is the best place to compare them.

Why is it a different proposition in the country than in the city? I'll tell you. It is because most of us don't want to spend the time to talk to these people and tell them what they are getting. Most people want just as good work as they can get and are willing to pay for it if they think they are getting their money's worth. Give them the best there is in you and they will stay by you. If you are not giving them as good service as they can get elsewhere, you had better get busy and prepare yourself so you can, or some of those young fellows will come in and walk away with the bacon while you sit in the corner of your office pulling on an old cob pipe saying, "These young fellows don't know anything." You just quit knocking and get busy.

If the big men in the cities can do these things, why can't we be big men in the country? We CAN, and I don't care who says we can't!

A Brother Country Dentist.

Nebraska Dental Journal

"Smokers' Patches" in the Mouth.—Landouzy describes these as consisting of whitish lines or triangular patches extending from the juncture of the lips to the first molar. These are also known as smoker's commissural patches. They are found exclusively in syphilitics. Tobacco is merely the local irritant which causes the patches to develop in the predisposed.—*Presse Médicale*, (*Medical Record.*)

CORRESPONDENCE

Editor DENTAL DIGEST:

Will you kindly ask the profession the following questions in your next issue. I am looking for the honest ones, the sore ones, also the few I am sorry to say are the fakirs.

DR. SURGEON DENTIST:

1. What is meant by Ethical Dentist?
2. Do you or do you not know any that are Ethical in the real sense of the word?
3. If you yourself are, then will you show at least one hundred of your contracts so that your claim may be disproved?

These questions have been generated through the several debates that appear from time to time in the DIGEST **Advertising vs. Ethics** as pertaining to dentistry.

C. S. L.

REPLIES TO E. S. G.*

DEAR BROTHER E. S. G.:

After glancing at the table of prices you receive for your labor, I can readily believe they are the "lowest in the state," regardless of what state you are in. I am also forced to believe you when you say it gives you "no little trouble." However, I can't sympathize with you for it's all your own fault and not the "old man's."

I can't account for a town of 7,000 and only three dentists unless it is because they are so disgusted with 50 cent cleanings and fillings that they either go somewhere else for their work, or possibly may not have it done at all. If you are doing fifty cent fillings and cleaning you have no right to ask more. If not, you have no right to do it for that.

Supposing you were to go into a store and upon being told the price of an article you told the proprietor you could get it cheaper from Rears and Sanbrick. Do you think he would at once become a veritable lick-spittal and get on his knees and beg you to take the goods at no profit just to keep your patronage? Would you have much respect for him if he did? No, I think not; yet, that is just what you are doing.

The thing for you to do is to raise the standard of the work and show them the difference, then you won't have any trouble in getting a fair price. Do your work your best and charge a fair price. Don't be afraid to talk to them, but make them see that they get just what they pay for, be it in dentistry or fish-hooks.

Probably the reason your people don't demand a sanitary office is

*January DIGEST, page 27.

because they never saw one. Let yours be the first and they won't be slow to realize the advantages.

Did you ever hear of a dentist being starved out because his prices were too high? No, No, Brother! this is what you really hear. They say, "He is all-fired high but he does good work and so most of us go to him."

One more point—about that stock of crowns. Of course there always will be men who do business that way, and then just across the street there will be men more conscientious but with no backbone who will try to compete with them and then mourn their sad plight. You are no better than those you consider your competitors, so if you want to get out of the old man's class all you have to do is to brace up and do better work and charge for it.

"Waste not your hour, nor in vain pursuit
Of this and that endeavor and dispute;
Better be jocund with the fruitful grape
Than sadden after none, or bitter fruit."

F. L. K.

Editor DENTAL DIGEST:

Dr. E. S. G. in the January DIGEST has my sympathy. We have a town of less than 7,000 and it supports 8 dentists. He says his is in a town of 7,000 and 3 dentists. If I was looking for a location I would endeavor to locate in his town and would take his scale of prices and multiply them by three just for a starter, for in a town of that size there are enough that would pay it. Of course a person would have to do a great deal of talking at the chair, but I would also start a dental education campaign. I would ask the other dentists to enter into it, in giving talks to the school children and the various clubs. If they would not enter into it, I would go it alone. If patients ever came to me and said they could get an amalgam filling for 50 per cent. where I charged $1.50, I would shoot it back at them so quick that it would startle them, that they can go out and buy a horse for $25 or one for $125, or even $500, and if they wanted a $25 horse go to him. However, there is no limit to the number of arguments that can be brought out. E. S. G. is in the heart of a gold mine and does not know it. If I were he I would go to my office to-morrow morning (no I would stop and do it now) make a resolution to make or break, then put a sign in front of my chair something like this "Ask my prices before having work done and avoid misunderstandings. Take nothing for granted." This I would do in justice to those who had been patronizing me and knew the prices I had been charging.

L. L.

PRACTICAL HINTS

[This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.]*

LEAKY VULCANIZER.—Get a package of Dixon's stove polish: shave off a teaspoonful and pulverize it. Mix it with equal parts of glycerine and water. The mixture should be about the consistency of cream. Paint it on the packing of the vulcanizer with a small brush. A very thin layer is usually sufficient. Repeat when necessary.—D. W. BARKER, D.D.S., Brooklyn, N. Y.

TO IMPROVE GASOLINE.—Should gasoline not work well in blow-pipe, not giving a brush-flame on account of exposure to air, add a little sulphuric ether and see the life it gets.—C. M. BREMERMAN, D.D.S., California, Mo.

RUGAE ON PLATES.—After flask is opened, wax removed, take suitable carving instruments and different sizes of ball burnishers, and carve rugae on plaster in the half containing teeth. Burnish tin-foil over this, pack and vulcanize. It takes only a few minutes, and you are well repaid for your trouble.—H. L. ENTRIKEN, D.D.S., Enid, Okla.

TO STOP A LEAKY VULCANIZER.—Wet rim of cup with water and sprinkle Wilson's corega freely on same. Close at once. This is my original way when "necessity was the mother of invention."—P. C. CURRAN, D.D.S., La Crosse, Wis.

TO CLEAN A GLASS SLAB OF CEMENT.—I always put my glass slab when through with (as I have several) in a bowl of water and it remains therein until the next morning when I take my plate brush and put glass under water faucet. Cement readily comes off and leaves slab in fine condition.—Dr. O. B. SHEDD, D.D.S., Weedsport, N. Y.

TO MAKE A TWO PIECE SHELL CROWN SERVE AS BRIDGE ABUTMENT.—In making two piece shell crowns to serve as bridge abutments, place seam of band on either mesial or distal surface of root so as to have entire seam included in solder area of adjacent dummy.—J. E. RUZICKA, D.D.S., Plainview, Neb.

*In order to make this department as live, entertaining and helpful as possible. questions and answers, as well as hints of a practical nature, are solicited.

To Facilitate Waxing Parts of Broken Vulcanite Plates Together.—Hold parts of broken vulcanite plate in correct apposition with hands, and with wax spatula in mouth, melt wax and drop with piece of tooth-pick across break.—N. L. Davies, D.D.S., Seattle, Wash.

To Do Away Altogether with the Very Much-Complained-of Bellows to a Soldering Outfit.—Get a small rotary air pump and fasten it to the wall in line with a motor (electric or water), a sewing machine belt to transmit the power if an electric motor is used. Place a switch near the blow-pipe and cut in on the line so when it is turned off the motor can be turned to first speed; to start fire simply turn switch and apply match. Am using it with a gasoline generator with absolute success.—V. C. Stockberger, D.D.S., Syracuse, Ind.

To Grind Natural Teeth Painlessly.—Much of the discomfort in the use of stones is occasioned by the jarring or vibration of the stone against the tooth. If the tooth is held firmly in the socket or against one wall of the socket with the thumb or finger of the left hand while grinding down enamel or opening cavities with stones it will minimize the discomfort immeasurably. Of course it is understood that all stones should run smoothly and true and that a stream of water should flow on them while cutting. If these precautions are taken, any ordinary case of grinding can be done painlessly.—E. D., *The Dental Review.*

To Flow Solder Easily.—If the solder is cut into long strips instead of short pieces, it can be used to better advantage. Heat the case up, and taking hold of one end of the strip with tweezers, hold the other end close to the piece to be soldered and direct the flame on it. As it melts feed it down into the joints or wherever you wish it to flow. In this way you can see what you are doing, and the solder may be fed into a deep depression or built up into any desired bulk in precisely the form that is required. If the solder is not flowing properly, dip the heated end of the strip in powdered borax, and this will flux it and make it flow smoothly. —J. W. J., *The Dental Review.*

Root-Canal Filling Material.—Gutta-percha base plate, weight one half ounce. Saturated solution of thymol and eucalyptol, measure one half ounce. Dissolve gutta-percha in chloroform; add thymol and eucalyptol and mix thoroughly. Allow chloroform to evaporate. Dry the tooth thoroughly and work the above into the canals with a warm broach, forcing to apex with a soft piece of rubber and insert gutta-percha point.—*The Pacific Dental Gazette.*

A Porcelain Jacket Crown.—This method of making a porcelain jacket crown is as follows:

First: Remove enamel with stones and burs.

Second: Take impression with ferrule containing modeling composition.

Third: Fill impression with cement.

Fourth: Take bite and place cement model in bite and place on articulator.

Fifth: Burnish 1-1000 platinum on cement model of end of tooth.

Sixth: Bake porcelain on platinum matrix.—G. T. GREGG, D.D.S., *The Dental Summary.*

USEFUL HINTS.—In the repair of vulcanite there is no need of waxing up nor using the press. In the case of a broken plate, grind each side of the fracture one quarter inch, very thin at the fracture, and pack with hot spatula, rubbing on small pieces and flask. If a tooth is to be replaced hold it in place with the fingers, having filed away some of the vulcanite and pack with hot spatula and flask.—L. P. HASKELL, *The Pacific Dental Gazette.*

TO RESTRICT THE FLOW OF SOLDER.—In soldering gold, when it is desired to restrict the flow to a certain area with a sharp lead pencil draw a line around the desired area. The solder will not flow past the line.—*The Dental Register.*

STRENGTHENING PLASTER MODELS.—For strengthening thin plaster models so that they can withstand the pressure exerted in flasking, etc., light and thin brass wire netting as employed for sieves is cut to suitable length and breadth and embedded in the plaster while pouring. To strengthen a bridge abutment on a plaster model, a little roll of wire netting is inserted as a core when the cast is being poured.—*Zahnaerztliche Rundschau, The Dental Cosmos.*

SEPARATING MODELING COMPOUND IMPRESSIONS.—In taking modeling compound impressions, the compound may easily be separated from the cast if the impression is painted with a thin solution of shellac before it is poured. A most perfect impression may be obtained if the compound be vaselined and held under a stream of hot water for a few seconds just before the impression is taken.—R. DAVIS, *Dental Review.*

TO SAVE TIME AND THE PROPER METHOD TO REPAIR A PLATE.—If the plate is cracked two thirds of the way, hold together until crack is closed, then with sticky wax and alcohol flame flow sufficient wax over same and let cool. Then make plaster model, and after it has set remove plate and break in two. Take fissure bur and cut $\frac{1}{8}$ inch of old rubber out of each side of break, then with same bur cut dovetail grooves on either side about $\frac{1}{4}$ inch apart, then wipe clean with a pledget of cotton and

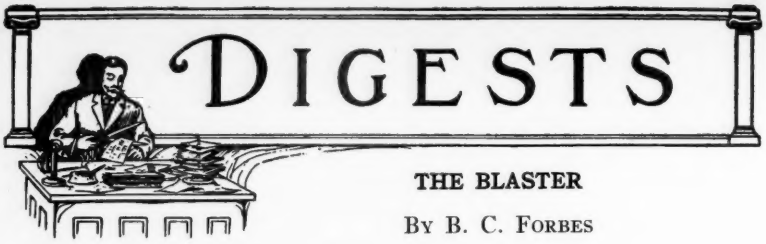
chloroform. Replace parts of plate on model being sure they are down where they fit on same. Hold same with left hand and with small pieces of rubber and a clean hot spatula, keeping spatula hot with alcohol flame, proceed to work rubber into grooves until even with surface of plate, then stretch another piece of rubber over groove, smooth to proper thickness, and the whole is ready for flasking. When vulcanized it can be finished in a few minutes. I repair all my plates in this manner. A new gum front can be put on in the same way. The plate will never break where the new rubber has been inserted, and if care is exercised the plate will positively undergo no change to cause a misfit.—ALFRED FRAZER KENNEDY, D.D.S., Walter, Okla.

[I approve absolutely of this method of making repairs. I find it unnecessary, however, to cut any dovetails, or wipe with chloroform either when surfaces receiving new rubber are freshly cut and free from wax or other foreign substance. I prefer also bridging the crack with pieces of match stick held with sticky wax at each end, putting no wax directly upon crack, at least until after parts are firmly held in place by match sticks, permitting one to turn plate over examining crack from both sides to see that it is correctly closed. In hand packing repairs in this way, it should be kept in mind that spatula must be as hot as rubber will stand without burning; when same may be spread on like butter; provided the right kind of rubber is used. I find Doherty's maroon about the best that I have tried for this purpose. Black rubber can scarcely be used for this purpose at all, and some makes of maroon and red are not much better. V. C. S.]

QUESTIONS AND ANSWERS

Question.—Please advise the best way to make a duplicate rubber plate without taking another impression. (That is, put new red and pink rubber in plate).—H. L. R., Granton, Wis.

ANSWER.—Flow as much wax over old plate as you think you will polish off in finishing new rubber; flask case just as you would if it were a new case, all wax. After plaster has set thoroughly, heat up very gradually until case is hot enough to have softened old rubber somewhat, but not to char it. Now flask may be opened cautiously, and old rubber taken out; some of the teeth may stick in the rubber, but these can be easily removed, placed in their respective places, and case packed as usual. Impression may be taken inside on old plate, excess of impression material trimmed off, and a re-adaptation secured as above.—V. C. S.



THE BLASTER

By B. C. Forbes

I have killed more men than all the armies of the world.

I have blighted more homes than all the plagues of history.

I have robbed more children of their birthright than all the thieves ever born.

I blast careers.

I am the parent of untold poverty.

I breed diseases.

I spread misery wherever I go.

I am oftentimes the inciter of the recklessness that strews the world with accidents and catastrophes.

I am the most subtle, the most insinuating, the most alluring of tempters.

I wear the guise of joy—of happiness, of gaiety, of goodfellowship.

I promise pleasures.

I deliver death.

I charm the rich as easily as the poor.

I am embraced by the educated as often as by the ignorant.

I speak every language.

I know every clime.

I am as old as history.

I am mightier than kings and emperors.

I have driven rulers from their thrones and overturned dynasties.

I can render the strongest armies impotent.

I can sap nations.

I rejoice in bringing dishonor and degradation.

I fill prisons.

I fill insane asylums to overflowing.

I feed hospitals with patients.

I cause more divorces than jealousy can claim.

I am equally powerful in undoing women as in wrecking men.

I am welcomed in every class of society.

I am given a place at the tables of the most cultured and the most exclusive.

I am as eagerly sought after by the poorest and the most ignorant.

I am so prized that no function of State, no brilliant social gathering, no great public dinner is accounted complete without my presence.

I am coveted by many governments for the revenue I yield them.

I consume, however, more wealth than has been spent in building all the railroads and all the steamships of the world.

I am the costliest inhabitant in every nation.

I and my activities call for the expenditure of unreckonable millions for prisons and for police forces and courts, for hospitals and for doctors and for nurses, for insane asylums, for almshouses, for orphanages.

I am, however, beginning to be seen in my real colors.

I am being subjected to scientific investigation—and found wanting.

I am falling into moral disrepute.

I can no longer fool the wise.

I have received a body blow from the economic regeneration precipitated by the war.

I have been discovered to be the arch-foe of progress, of strength, of effort, of efficiency.

I have been drummed out of one country with beneficent results which have astounded a world blind to my real character.

I have been curbed in another empire where long I held sway among the masses—men and women—impoverishing them grievously.

I have been barred from nineteen States in this great commonwealth, but though many believe they foresee my doom from end to end of the land, I still have many powerful friends whose pockets I fill with my blood money, but whose lives and families I wreck sooner or later.

I have all the forces of evil on my side, and I shall fight to the last ditch.

I can prevail so long as I am allowed to wear my mask.

I cannot hope to endure for a day if I be revealed in all my real hideousness.

I, therefore, summon every enemy of the State, every enemy of the home, every enemy of family life, every enemy of happiness, every enemy of progress, every enemy of decency, every enemy of honor, every enemy of health, every enemy of all that makes life worth while—I summon all these, my supporters and my worshippers, to enrol themselves under my banner of skull and cross bones and so battle for me that I, the arch enemy of mankind and of civilization, shall be victorious over every agency of righteousness.

Who am I?

I am drink.—*North American.*

OIL OF TURPENTINE AS A HÆMOSTATIC

By G. Grey Turner, M.S:Durh., F.R.C.S.

A severe case of bleeding after an operation on the elbow resisted all treatment until the wound was packed with gauze soaked in oil of turpentine. The hæmorrhage which previously had been severe and long continued, at once ceased. The successful use of the oil has been proved on many other occasions. Its chief sphere of usefulness as a hæmostatic is in cases of secondary hæmorrhage. It is of no use until the area to be treated has been thoroughly freed from blood clot and débris; and it is especially valuable in those cases in which no bleeding point can be caught, but in which the hæmorrhage is nevertheless alarming. The oil is an antiseptic, and gauze saturated with it keeps wonderfully sweet, while by its action on the living tissues it gives rise to a slimy pus which greatly facilitates the removal of the gauze in the course of forty-eight hours. The only local inconvenience to which it may give rise is some blistering of the skin, which need not occur if care is exercised in its application. Its use is not limited to limbs; for bleeding from a tooth socket the author knows of nothing that is its equal. Doubt is expressed as to the value of oil of turpentine as a hæmostatic when taken by the mouth.—*Lancet*, July 31, 1915.

CONVERSATION

A dentist of my acquaintance who attributes a large measure of his success to his punctilious attention to the "little things" prides himself on his ability to talk *just enough* to his patients.

Not so much as to bore them nor so little as to make the silence oppressive. Nothing focuses the mind of the patient more strongly upon the task at hand than silence. Nothing makes the patient long to get away from the dentist's office and never see it or the dentist again more than too much trite talk.

As in most things, the happy medium is the perfect virtue.

Talk of pleasant things, of interesting things. Avoid the weather and other commonplace topics that tend to boredom. Study the interests of your patients where possible and talk about them. Talk baseball to the boys, political or business conditions to the men and affairs of local interest to the women. Be up on current events—a good newspaper will keep you so—and be able to converse easily on a variety of subjects. Don't overdo the matter, know when *not* to talk, and don't ask questions when your patient's mouth is occupied with hand or instrument.

Greet your patient with a smile, talk to him entertainingly, but not too much, while he is in the chair and give him a pleasant "good-bye." It pays.

INFECTION OF THE HANDS AND FINGERS OF PHYSICIANS

Heidenhain states that during thirty-one years in which he has practised surgery he has been injured innumerable times and in all customary ways, in the course of operation on subjects with sepsis and had never once become infected. He began after a while to regard himself as immune. However, with a rich experience he had never seen a surgical infection in any colleague or assistant in his own sphere of influence. Nevertheless he has seen numerous infections in surgeons from other clinics. The author's only prophylactic after an injury was to keep the hand and arm in complete rest for twenty-four to forty-eight hours. Once a colleague came to him for a dressing for an autopsy wound, and he ordered immobilization. Returning from an absence of several days he found the man dead. He had removed the dressing and very soon after experienced a chill. The author believes firmly that immobilization for forty-eight hours after these traumatisms would result in a great reduction of morbidity and mortality among surgeons. At the last moment the author had a most corroboratory test of his theories in his own person. After one day's immobilization, following an injury he felt it his duty to do a certain amount of typewriting. He soon developed a chill and local infection which laid him up for a month and caused him much misery. He was fortunate in escaping a general infection.—*Münchener medizinische Wochenschrift* (*Medical Record.*)

EXTRAGENITAL CHANCRES

Henry Kennedy Gaskill says it is manifestly impossible to determine with any degree of accuracy the comparative frequency of extragenital chancres. The only place in which this could be approximately estimated would be in the army and navy; here careful statistics of all venereal diseases are made and the utmost care is taken to prevent their contraction. Unless there is a well-maintained correlation between the several departments that treat syphilis the value of statistics is entirely lost. As a rule in the histories of cases recorded as having been treated no reference is made to the situation of the chancres. The writer thinks we are prone to minimize the danger to which doctors and dentists are subjected, particularly the latter. With the modern ideas of antisepsis, the dentists of to-day are sterilizing each instrument after every patient, but this does not mitigate the risk of personal inoculation. For their own sakes, dentists should be trained to recognize the appearance of the mucous patch while in college. At present, to a very large extent, they obtain their information only from books, and colored plates, not from living patients.—*New York Medical Journal.*

AN EPITOME OF CURRENT DENTAL AND MEDICAL LITERATURE

[*The Dental Review*, February, 1916]

Original Communications

What Shall We Do with Pulpless Teeth. By Thomas B. Hartzell.

*The Treatment of Sinuses of the Head by Means of Bismuth Paste. By Emil G. Beck.

A Consideration of the Problems Involved in Removable Bridge Work. By Karl G. Knoche.

President's Address. Our Opportunity. By W. C. M'Wethy.

Proceedings of Societies

Minnesota State Dental Association, Thirty-second Annual Meeting, Held at Minneapolis, June 11, 12, 1915.

Odontological Society of Chicago.

Chicago Dental Society.

Northern Illinois Dental Society, Twenty-eighth Annual Meeting, Held at Freeport, Illinois, October 20, 21, 1915.

Editorial

The Widening Sphere of Dental Journalism.

Editor's Desk

Answer Your Letters.

THE TREATMENT OF SINUSES OF THE HEAD BY MEANS OF BISMUTH PASTE*

By Emil G. Beck, M. D., Chicago, Ill.

Practically all sinuses are preceded by abscesses, and therefore a sinus is nothing else than a shriveled abscess cavity. Many believe that sinuses, especially rectal, are channels caused by pus burrowing through narrow spaces from one part of the body to another. I am convinced that a sinus starts from an infection in either the bony structure or the parenchymatous organs and after the formation of an abscess, the pus spreads in the direction of least resistance and opens into either the skin or the bowels, the urinary bladder, or even the gall-bladder. After evacuation the cavity gradually shrinks and the sinus forms.

When the abscesses spread in various directions, they form multilocular abscesses, sometimes communicating, and at other times not, so that an astonishing network of sinuses may result. This fact was not known until it was demonstrated by radiograms of the injected sinuses.

*Read before the Odontological Society of Chicago, October, 1915.

"The method, as you know, consists of injecting with a glass or metal syringe a quantity of bismuth paste into an opening of a sinus until one feels reasonably certain that all ramifications have been filled. The paste, thus injected, will rapidly congeal and remain in the sinuses long enough to permit of taking a radiograph.

"A glance at the radiographs in which the network of tortuous sinuses is clearly shown teaches us its advantages. We can all recall instances in which such a radiograph would have been of great assistance, and would have spared many an unfortunate a useless operation.

"Formerly we had to rely upon the probe or the colored fluids as pathfinders of sinuses, but these served as guides during the operation, while, only with this new method, are we able to make a correct anatomical diagnosis before an operation is decided upon, and thus we are able to discriminate between operable and non-operable cases.

"If an operation is decided upon, then the procedure is carried out with more thoroughness and precision, as we can work with definite plans before us."

Suppurative sinuses about the jaws very often communicate with the cavities of the accessory sinuses. Here they are not nearly so extensive as elsewhere in the body.

Sinuses frequently follow injury, such as gunshot wounds and fractures. Another type is from postoperative infections, after drainage, or even after clean operation.

Surgical operations for sinuses in the past have proven very unsatisfactory. In my brother's and my series of some 1,800 cases treated with bismuth injections, there were some which had lasted many years and had resisted all surgical treatment; one case had lasted sixty years, two others forty years. Since the introduction of bismuth paste, we have been able to separate the operable from the inoperable cases and thus avoid useless operations. The majority of the cases thus treated heal up without surgical invention. Sixty per cent. have gotten well.

WHAT SHALL WE DO WITH PULPLESS TEETH?

By Thomas B. Hartzell, M.D., D.M.D.
Research Professor of Mouth Infections, School of Medicine; Professor of Oral Surgery and Clinical Pathology, College of Dentistry

First and foremost, is the sterile well-filled tooth a menace? My answer to that question is most emphatically, no. However, the pulpless tooth of the future must be handled by vastly different methods than the methods of the past to escape condemnation. We, as a pro-

fession, will have to give to the care of the pulpless tooth or the tooth to be devitalized, hours of time, where in the past, we have slurred it over with little consideration. To accurately remove the pulp, where removal is possible, and fill and protect root canals of a molar, means the work oftentimes of two or three hours, and to remove root filling from an imperfectly filled root and purify and re-fill the canals, may involve double that expenditure of time. The question which confronts us is, are we willing to educate our patients to the need of this work and do it in such a manner as to protect them from serious damage? If we are not, we must face the issue which is extraction for all teeth in which decay has exposed the pulp to infection. For that other type of case, in which bridge work must be placed, we are confronted by the necessity for applying bridges to our teeth in such a manner that the pulps may be preserved. I here present for your study a common example in which a crown has been placed upon a vital tooth, which subsequently died. Some of the worst cases of infection that it has been my fortune to see have resulted from the death of teeth which were not devitalized previous to crowning. The presence or absence of abscess depends upon two things primarily, the admission of micro-organisms to the tissues and the decrease of resistance of the individual who has long been sensitized to them by absorption of their poisons into the circulation from some focal point or their constant ingestion in the saliva. The recorded cases of the speaker, of vital teeth showing abscess for two years, and of C. J. Grieves of Baltimore for one year is fifty vital teeth showing abscess.

During the past winter I have noted thirty cases of teeth which were bearing crowns, which teeth had subsequently died as the result of infection and extra stress placed upon them in bridges. Infections resulting from death of pulps under bridges always cause the loss of the bridge, whereas roots from which the pulps have been removed and properly treated from the standpoint of asepsis, which undergo the misfortune of abscess, frequently may be saved. It seems to me that we should all endeavor to perfect ourselves in a method or methods which will lead to few infections through the dental path. In other words, close the door to infection.

I have record of one hundred and fifty teeth which were found to contain dead pulps which teeth were perfect as to their structure, presenting no decay or abrasion, the death of the pulps having been produced by some influence not known to the patient. I have also record of and can show you a lantern slide of teeth that are apparently abscessed, presenting a clear area of rarefaction about the root ends which contained, when examined, vital pulps. In fact, I have two recent cases in which we have large abscesses involving a lateral and central, which in operat-

ing to shell out the abscess sack, exposed both the central and lateral root tips leaving them standing in view, the central containing a living pulp in seemingly good health with the pulp of normal color and vital. Therefore, we have evidence to show that the focus of infection about teeth does not necessarily depend upon destruction of the pulp itself. The one hundred and fifty devitalized teeth just mentioned doubtless were devitalized by the admission into the circulation of the pulps of bacterial emboli. Possibly, as most of them were abscessed, the abscess commenced in the apex of the socket, because the apex of the socket is the most likely place for bacterial emboli to lodge whether the tooth be vital or non-vital. The anatomical relations favor the deposition of bacterial emboli in the apices of the tooth's socket because some of the vessels there are terminal. If bacterial emboli lodge and multiply in the terminal vessels, which supply the tissues about a root end, the result is abscess whether the tooth be vital or pulpless.

[*The Dental Cosmos*, February, 1916]

Original Communications

Mottled Teeth: An Endemic Developmental Imperfection of the Enamel of the Teeth Heretofore Unknown in the Literature of Dentistry. By G. V. Black, M.D., D.D.S. Sc.D., LL.D., and Frederick S. McKay, D.D.S.

The Treatment of Pyorrhea Alveolaris with Emetin Hydrochlorid. By Lionel Sherriff, Surgical Dentist.

*Ankylosis of the Jaw. By John B. Murphy, M.D., F.R.C.S. (Eng.), F.A.C.S., and Philip H. Kreuscher, A.M., M.D.

*The Mercurial Treatment of Pyorrhea Alveolaris. By C. S. Copeland, D.D.S.

*A Further Study of Some Etiolo_cal Factors of Malocclusion. By Milo Hellman, D.D.S.

Some Considerations for the Dental Practitioner in Employing Vaccine Treatment. By George C. Küsel, M.D., D.D.S.

The Uses and Advantages of X-rays as an Aid to Diagnosis. By Charles A. Clark, L.D.S.I.

A Comparison of Inlays with Fillings. By H. W. C. Bödecker, B.S., D.D.S., M.D.

ANKYLOSIS OF THE JAW

By John B. Murphy, M.D., F.R.C.S. (Eng.) F.A.C.S.,
and
Philip H. Kreuscher, A.M., M.D., Chicago

This analysis of twenty-three cases covers the four varieties of ankylosis that occur in or about the temporo-mandibular articulation, viz.:

(*a*) Intra-articular bony ankylosis.

(*b*) Intra-articular fibrous ankylosis.

(*c*) Sub-zygomatic cicatricial fixations.

(*d*) Inter-alveolar buccal fixations.

The technique for the formation of new joints may be divided into

seven different stages, each of which has been initiated or created by the work of a single individual and followed by the succeeding schools. These stages are:

(1) The formation of flail joints, especially of the shoulder and elbow (Langenbeck, Ollier, Julius Wolff, and others). These were desired sequences following resections of tuberculous and syphilitic joints, and joints destroyed by pus infections.

(2) The restoration of motion in a bony ankylosed joint by the interposition of muscle and fibrous tissue between the separated ends at the joint, as in the mandible (Helferich, 1893).

(3) False joints developing after bone operations in the neighborhood of joints (Lorenz).

(4) The transplantation of pedicled flaps of fascia and fat and capsule with the production of movable sliding serous surface joints (Murphy, 1902) in the mandible, shoulder, elbow, wrist, finger, hip, knee, ankle, and toe articulations.

(5) The homo-transplantation of the articular ends and surfaces of bone (Lexer, 1906), particularly in the knee.

(6) The transplantation of detached fat and fascia (Lexer).

(7) The interposition of foreign material to make the joint, from Pean's metallic joint down to Kraske, Baumgarten, Roser, and Baer's hetero-visceral implantations.

The *fourth* stage, as outlined by Murphy, is a transplantation of pedicled flaps of fascia with fat and capsule. It is the one which has given practically one hundred per cent. movable joints, and is applicable in nearly every joint of the body where the peri-articular tissues have not been destroyed by some previous operative procedure or destructive pathologic process. It would be gratifying if the free fascia and fat transplantation of Lexer, mentioned under stage 6, would with future experience sustain the good results which its originator predicts for it. Judging from our experience we believe that it will not meet the requirements in weight-bearing joints.

The insertion of foreign material or heteroplasties are doomed to disappear from this field of work, as experience has shown that foreign absorbable material, if *aseptic*, must eventually be supplanted by connective tissue; while a flexible flail joint may result, a movable sliding joint cannot be obtained from such an interposition. The foreign material, when it is *septic*, is always a detriment rather than an aid in the formation of a movable joint. Non-absorbable metal materials can be serviceable only under very few favorable conditions. (See Chlumsky's experiments.)

In Murphy's work on the arthroplasties of the temporo-mandibular

articulation the cases may be divided as stated above, viz: (*a*) The intra-articular bony ankylosis (true ankylosis); (*b*) the intra-articular fibrous ankylosis; (*c*) sub-zygomatic cicatricial fixations, and (*d*) inter-alveolar buccal fixations.

Under *c* belong the fixations in the sub-zygomatic zone, resulting in scar tissue which binds the coronoid process to the cranium. Under *d* belong the cicatricial fixations due to sloughing of muscle and mucosa in the mouth or cheek.

ROUTES OF INVASION

The four routes of infection invasion into or surrounding the temporo-mandibular articulation may be given thus:

First, and most frequent: An extension of the suppuration from the middle ear (cases No. 1, No. 4, No. 7).

Second: A mandibular osteitis or osteomyelitis extending to the glenoid cavity.

Third: A metastasis from foci of infection within the mouth or elsewhere in the body (cases No. 2, No. 3, No. 9, No. 10, No. 19, No. 20), or part of a general metastatic arthritis (case No. 11).

Fourth: It may result from a transmitted trauma from the tip of the chin to the articulation, giving a traumatic osseous fibrous arthritis (cases No. 6, No. 14, No. 15, No. 17).

The glenoid fossa alone may be involved in the ankylosis, or the bony bridge may extend forward to include the zygomatic and coronoid processes.

The most common cause of the ankylosis is a middle-ear suppuration in which the infection may pass in five different directions: First, backward into the mastoid; second, through the posterior wall of the petrous bone into the posterior cerebral fossa; third, it may penetrate the attic of the ear and form an abscess in the middle cerebral fossa or rupture externally just above the tip of the ear; fourth, it may burrow forward and rupture into the glenoid cavity or pass over the base of the zygomatic process into the mandibular articulation; fifth, it may burrow forward into the sub-zygomatic temporal muscle and produce an extensive phlegmonous myositis, with subsequent cicatricial contraction binding the coronoid process and inhibiting mandibular motion.

In the cases of para-articular fixation the condition is usually caused by (1) a sloughing of the mucosa of the cheek, such as follows typhoid fever, scarlet fever, measles, infection of the alveolar processes; (2) infection of the scalp or cranium or infections from the mouth into the temporo-mandibular fossa which produce a destruction of the fascia and temporal muscle.

A FURTHER STUDY OF SOME ETIOLOGICAL FACTORS OF MALOCCLUSION

By Milo Hellman, D.D.S., New York, N. Y.

(*Read before the Eastern Association of Graduates of the Angle School of Orthodontia, at its annual meeting, New York,* May 20, 1915)

RÉSUMÉ

Dr. Hellman sums up the evidence which he brings forth in this article as follows:

(1) That malocclusion of the teeth is found to be intimately related to conditions that interfere with normal breast-feeding. Of 134 cases examined, 83 per cent. were found to be bottle-fed.

(2) That results obtained by experimentation demonstrate that definite anomalies in the teeth and jaws may be produced in lower mammals by artificial disturbances created in the internal secretory glands.

(3) That a close relationship is found to exist between malocclusion of the teeth in the human being and such anomalies of the denture as are produced by experimental disturbances of the internal secretory apparatus. Of 149 cases of malocclusion examined, there were 65 malformations in the enamel-covering of the teeth; 19 anomalies in the size and form of the teeth; 98 irregularities in the shedding of the deciduous teeth, and 111 irregularities in the eruption of the permanent series.

It may therefore be concluded that of the numerous factors that enter into the etiologic problem of malocclusion of the teeth, *internal secretion* is the one which may, in a large measure, account for many mysteries that perplex the orthodontist. The appreciation of the paramount importance of this factor will be evident in proportion as more knowledge is gained with reference to the profound working of this most wonderful system of glands.

THE MERCURIAL TREATMENT OF PYORRHEA ALVEOLARIS

By C. S. Copeland, D.D.S., Rochester, N. Y.

The many "cures" for pyorrhea alveolaris which have been presented to the dental profession during the past few years have demonstrated that we are alive to the importance of combating this dreadful disease and its secondary systemic infections. Each has had its fair and impartial trial and been found wanting, yet each has contributed its small mite to the process of elimination and to the survival of the fittest. That local instrumentation and treatment has not been eliminated in this contest is conceded by all contestants. That mercuric succinimid properly injected and combined with local treatment effects a cure in all but hopeless cases I have demonstrated to my complete satisfaction.

Systemic infections secondary to pyorrhea are also cured by this treatment.

While my experience and investigations with this mercurial treatment have been limited to the above cases, they certainly verify the reports of Dr. Wright and Dr. White of the Portsmouth Navy Yard. To those who expect a few injections of mercuric succinimid alone to cure pyorrhea, let me again emphasize the absolute necessity for careful local instrumentation and treatment, for it is only by this combination that such wonderful results have been obtained. For the benefit of those who do not understand the technique of mercurial injections, it is described here in full, just as I saw it carried out by Dr. Wright while at the Portsmouth Navy Yard. This technique is simple and easily mastered, and as all dentists have the legal right to administer any and all of the drugs in the pharmacopœia, either locally or systemically, there is absolutely no reason why they should not make their own injections. In the case of female patients, only a small area need be exposed, the rest of the body being draped with sheeting by an assistant.

TECHNIQUE

The syringe used is made by Burroughs, Wellcome & Co., all glass, and holding forty minims. The needles used are No. 26, intra-muscular, for the above syringe.

Syringe and needle are sterilized before using. The solutions are so made that gr. 1/5 of mercuric succinimid is dissolved in four minims of hot, sterile distilled water.

The site of injection is the buttock, using alternating sides for succeeding injections. The skin is sterilized with tincture of iodin. The method of inserting the needle is as follows: The needle butt is held between the thumb and third finger with the index finger over the butt, the shaft of the needle to be perpendicular to the skin surface, the point about three inches distant from it. With a quick, forceful, downward thrust, the needle is driven deeply into the substance of the gluteal muscles, from point to butt. Then into the syringe as many minims of the sterile mercuric solution as represent the desired dose, are drawn; if it is to be gr. 5/5, minims xx will be required. Then the syringe tip is inserted into the socket of the needle, and the injection is made slowly. The needle is withdrawn, and tincture of iodin is applied to the point of injection. The injections are to be repeated every seventh day.

In conclusion let me say that I believe the profession and humanity are greatly indebted to Dr. Barton Lisle Wright, surgeon U. S. Navy, for this wonderful discovery. It seems that at last we have conquered a disease that has puzzled and endangered the human race from time im-

memorial. Perhaps the most satisfactory part of this discovery is that the discoverer is an American, an officer in that most efficient organization, the United States Navy.

[*The Dental Outlook*, February, 1916]

Original Communications

Editorial

THE RELATION OF PEDIATRIST AND DENTIST

By G. R. Pisek, M.D., New York

It is a sad fact shown by a committee of the A. M. A. that 48.8 per cent. of the children of rural communities and 33.50 per cent. of city children were found to have defective teeth, and we are only now just beginning to scratch the surface very feebly with a few dental clinics to correct these defects. The physicians need the whole-souled coöperation of dentists in the care of the mouth of the child. It must be admitted that the dentists have not given of their best to the child. The rank and file of the dental profession as a whole, have not supported in practice the contention that the primary teeth should be carefully preserved. Extraction is too often resorted to where a filling could have been placed if the necessary time and patience were used.

There is a need for dentists who are willing to devote attention to the mouths of children, and who would take charge in the same manner as the physician would in cases of specific illness. There should be more personal coöperation between the physician and the dentist, particularly in the cases to be mentioned later in which other therapeutic aids besides the orthodontic are necessary to affect the well being of the child.

Physicians in the last few years have had their attention forcibly called to the foci of infection, which may occur in or about the mouth. They are aware of the fact that a number of diseases heretofore of obscure etiology may be attributed to pus pockets at the roots of teeth.

In fact the pendulum is perhaps swinging too far in this one direction, but nevertheless attention is well centred upon the hygiene of the mouth and the dental profession should be prepared and ready to coöperate with physicians, seeking advice for their patients. The effort must centre itself in the prevention of dental caries and Rigg's disease. Early and serious dietetic errors during infancy and the early years of life have a marked effect on the production of irregular dentition, deformed and carious teeth. The dentist should be able to recognize the effects of improper diet in the mouth, and be capable of recognizing that the condition is due to dietetic error.

The dentist need not and should not attempt to regulate the feedings of children, but he should have a clear conception of the scientific foundations of the art, so that he may be able to detect the evidences of improper feeding and direct his patient into the right channels for correction.

The maternal nutrition of the infant commences at conception. The developing ovum at first absorbs nutriment from the fluids by which it is surrounded, but as the organism develops it attaches itself to the wall of the uterus and through it obtains food. As organization becomes more complex the placenta is formed, and gradually the circulation of the blood is established. When birth occurs a sudden change in the method of obtaining food takes place. The mother now supplies it from the breasts instead of through the placenta. At first she secretes colostrum, but this is soon displaced by milk which she supplies until teeth are cut and the infant is ready for solid food. During the time the infant is at the breast its digestive organs are slowly assuming the form of those of the adult and are gradually developing their functions, as is shown by the ability to take solid food a little at a time. During the time the digestive organs are developing Nature sees that the infant has food that is specially suited to it.

The reason why foods that do not contain fresh milk are not successful in the long run for feeding infants, is that they do not have the property of adapting themselves to the changing stomach and keeping it properly at work. Unmodified cow's milk disagrees with most young infants because of the character of the solid formed from it when it comes in contact with the pepsin of the stomach.

Most important from the dental standpoint is the fact that, the true growth of the body—the formation of muscle and bone—is absolutely dependent on the proteid obtained from the food, which is represented by lean meat, eggs, curd of milk, gluten of cereal, etc. If this element of the food is deficient, a weakened constitution will result, although the infant may gain in weight rapidly if there is sufficient sugar present. If there is enough proteid, but insufficient sugar and fat in the food, stunting

will follow because the proteid cannot be stored up as new tissue, but must be used for the current needs of the body, which would normally be met by the sugar and fat.

Again the dentist should be able to differentiate the syphilitic teeth of the second dentition from the irregular, deformed teeth occurring in the mouths of children with mental deficiencies.

From the pediatrician's standpoint the dentist should recollect that children who are artificially fed, have generally weaker teeth.

[*Dominion Dental Journal*, January, 1916]

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SYSTEMIC DISORDERS AS THE RESULT OF ORAL SEPSIS

By Andrew J. McDonagh, D.D.S., L.D.S., Toronto, Ont.

If a tooth has an abscess encompassing the end of the root, which is apparently encysted, at the end of the roots of the teeth immediately

adjoining that tooth, although the teeth are alive and perfectly healthy, will be found the same micro-organisms as are contained in the abscess, showing that the micro-organisms have penetrated the walls of the abscess and invaded the contiguous tissues, showing also a probable avenue into the circulation. Now, the harm which may be done if these organisms enter the circulation either by this avenue or any other avenue which we will speak of later on, may be done either by destroying the blood itself; in other words, by haemolyzing it, or the harm may be done by the blood stream carrying these organisms to distant parts of the body, where they will find congenial habitation, notably in the heart, the joints and cellular tissue. There is a great difference in opinion between pathologists as to the proportion of alveolar abscesses which contain haemolytic organisms, Hartzell claiming that in his investigations only one in two hundred abscesses contained haemolytic organisms. This great difference of opinion possibly is accounted for by the different manner in which investigators culture their organisms, but in my experience there is this to say, if the organism in a blind abscess is a haemolytic organism, the abscess is much smaller and much more difficult to find by X-ray. This probably is due to the difference in the pyogenic qualities of the two organisms.

In making and reading radiographs our difficulties are enhanced, because an abscess caused by an infected pulp canal does not always form at the end of a root, does not always form in a position easily detected in a skiagram; in other words, the root very often hides the abscess, and your only guide is the condition of the lineadura and your knowledge of the appearance a healthy root ought to have. This is exceptionally true of the molars on which the abscess often forms at the bifurcation of the roots, and is an exceedingly virulent abscess. A man to make a diagnosis should never absolutely rely upon his skiagram; he must use either thermal changes or high pressure electric current, or both, to help in his work. Just one word more about abscesses on the teeth. It is not unusual for a man examining a patient's mouth to base his diagnosis on that which is most apparent, namely, sinuses and visable concretions. Nothing in this field is more deceiving or more disappointing. Multiple abscesses discharging through sinuses into the mouth are not as bad as one abscess (so-called blind abscess) which has no sinus, the whole contents of which must be absorbed by the surrounding tissue, and we must not forget that in this case the surrounding tissue is composed of highly vascular cancellous bone.

These blind abscesses very often, in fact, in the majority of cases, do not cause any great discomfort to the patient; the teeth are not sore, the gums are not swollen, and if you make a single X-ray plate of all the teeth and the jaws of the mouth you may not discover the abscess.

Another fact which is sometimes overlooked is that organisms contained at the end of the different teeth roots in the mouth may be, and very often are, as different as possible in different localities in the same mouth; that is, you may have at the end of one of the centrals a non-haemolytic streptococcus veridans, and at the end of a bicuspid root a haemolytic streptococcus, and so on, consequently every root and every abscess sac must be made sterile.

[*Journal American Medical Association*, January 15, 1916]

THE ACTION OF COCAIN

Aside from its action as a local anesthetic, and its stimulating and then depressing action on various parts of the central nervous system, cocain has three effects which have especially aroused the interest of clinicians and pharmacologists. These are the dilation of the pupil, the iocal constriction of certain blood vessels, and the acceleration of the heart sometimes seen in cases of poisoning by this drug. The first two are of very practical importance. Cocain is in constant use as a mydriatic, and extensive use is also made of its constricting action on the dilated vessels of the conjunctiva, etc. Its advantages as a local anesthetic over its more recent rivals are in part attributed to its local vasoconstricting effect. Since the introduction of mixtures of novocain, etc., and epinephrin, however, this inherent advantage of cocain has become of less importance; the epinephrin adds to these mixtures an important action not possessed by the anesthetics alone.

There has been much discussion as to just how cocain brings about dilatation of the pupil and the local constriction of blood vessels. For many years the view has been current that it stimulates the endings of the sympathetic nerves in the iris. This view was based chiefly on the observation that after these nerves were cut and allowed to degenerate, cocain had a much less dilating effect on the pupil, or none at all. This explanation has never been entirely satisfactory; all writers have had to admit that it does not explain all the observed facts. It has been accepted, however, as the more plausible explanation for the major part of the facts, and recent writers seem to have been little disturbed by the facts which it does not explain. The other actions, the vasoconstricting and the acceleration of the heart, have not been the subject of much investigation, but there has been a tendency to explain them also as a result of an increased activity of sympathetic nerve endings.* In fact, cocain is now frequently grouped with epinephrin as a drug having a selective

*Meyer, H. H., and Gottlieb, R.: Pharmacology, Clinical and Experimental, p. 158.

stimulating action on the endings of the true sympathetic nervous system.*

It appears, however, from recent work carried out by Kuroda,† in the pharmacologic laboratory of Professor Cushny of London, that such a generalization was premature and not sufficiently well supported by experimental facts. Kuroda showed that the action of cocain differs widely from that of epinephrin or sympathetic nerve stimulation: thus it dilates the vessels when perfused through an organ, whereas epinephrin or sympathetic nerve stimulation causes an intense constriction; it depresses the action of the isolated heart, whereas sympathetic nerve stimulation or epinephrin powerfully stimulates this organ; small doses of cocain augment the activity of the intestine, and large doses depress it, whereas with epinephrin or sympathetic nerve stimulation there is only a depression. There is a similar lack of correspondence between the action of cocain and of epinephrin or sympathetic nerve stimulation in the case of the stomach, uterus, bladder, and salivary glands. In nearly all cases, cocain was found first to increase the activity of unstriated muscle and then to depress it, whatever may be the nature of the sympathetic control; in some instances the phase of increased activity was not observed. In view of these results and the fact that the explanation that the dilatation of the pupil results from a stimulation of the endings of the sympathetic nerve has always been regarded as inadequate, Kuroda argues that the dilatation of the pupil under cocain also arises from a direct depressing action of the drug on the muscle of the iris. The vasoconstricting action of cocain which is seen when the drug is applied directly to a congested mucous membrane is not so readily explained, but it is evidently of a different character from that caused by epinephrin or sympathetic nerve stimulation; the effects of the latter agencies are very evident in isolated organs, and are always readily obtained, whereas cocain causes a dilation of blood vessels under similar conditions.... The acceleration of the heart in the intact animal is evidently not analogous to the action of epinephrin; it may be due to an action on the central nervous system.

At first thought it may seem rather discouraging that there should still be so much doubt as to the true action of such a widely used mydriatic as cocain; but it should be remembered that such problems are very complex and that the number of men seriously working to elucidate them are few.

*See, for example, Wolfsohn, J. M.: The Normal and Pathologic Physiology of the Visceral Nervous System, *The Journal* A. M. A., May 16, 1914, p. 1535.

†Kuroda: Jour. Pharmacol. and Exper. Therap., 1915, vii, 423.

[*Journal American Medical Association*, January 22, 1916]

THE TECHNIC OF ORAL HYGIENE

"Dentistry, which is a highly specialized branch of surgery, should use the two factors, asepsis and anesthesia, which have made possible the wonders of modern surgery, with skill and precision equal to that of surgeons." This is the theme emphasized by Hasseltine* of the United States Public Health Service as the result of an investigation, undertaken at the request of prominent dentists, to work out a detailed method for sterilizing dental instruments and appliances, keeping in mind the important factors simplicity, efficiency, and duration of the process of sterilization. Any one trained in modern methods of asepsis who has watched the technic at present employed in the usual routine of dental treatment will have observed the errors which are almost inevitably allowed to creep in, and the attendant possibility of bacterial contamination and transmission of infection from one patient to another. The entire question of oral sepsis and mouth hygiene has been put into even greater prominence of late by the attention centred on the unexplored possibilities of infection through the mouth. The situation has been analyzed by the statement that "from the standpoint of efficiency the modern mouth is out of adjustment with modern conditions—or, perhaps we should say, modern conditions are out of adjustment with it. Notwithstanding the numerous bacteria that flourish within its portals, mouth secretions and the mucous membranes do not seem to have the protecting power which is often manifest in other regions of the body and which protects an animal in a state of nature."†

The danger from focal infections in which streptococci are present in the tonsils and about the teeth is becoming more widely appreciated now that the possibilities for harm in such chronic foci are being recognized on the basis of careful scientific investigation. In referring to what may be called "internal streptococcal metastasis" attended by the localization of mouth streptococci in the interior of the body, it was pointed out recently‡ that the efforts now made to detect and then to obliterate all forms of focal infection in the mouth and throat as well as elsewhere in the body, for preventive as well as curative purposes, besides being in accord with sound reasoning from general principles, receive the support also of strong experimental evidence.

As illustrations of the possibility of transmission of mouth organisms

*Hasseltine, H. E.: The Sterilization of Dental Instruments, Bull. 101, Hyg. Lab., U. S. P. H. S., 1915, p. 53.

†How to Live, New York, Funk and Wagnalls, 1915, p. 78.

‡The Localization of Streptococci, editorial, *The Journal* A. M. A., Nov. 13, 1915, p. 1732.

from one person to another through the medium of dental practices, Hasseltine* mentions the placing of sterilized instruments on a swinging tray or glass plate which has not been sterilized, the cleaning of burs on a scratch wheel which has not been sterilized since the burs used on the previous patient have been cleaned on it, and the frequent handling of the cable of the dental engine, which receives contamination from one patient through the operator's hands and in turn returns a portion of this contamination to the operator's hands when used on subsequent patients. These familiar errors, as Hasseltine expresses it, emphasize the necessity of having everything which comes in contact with the instruments or hands of the operator free from organisms obtained from previous patients in order to prevent transmission of infection from one patient to another. Every dentist or oral surgeon will find useful hints and practical suggestions in the outcome of the investigation of the Hygienic Laboratory.† The recommendations for the sterilization of dental instruments point out that moist heat is our best disinfecting agent for the sterilization of all metal instruments. For the destruction of nonspore-bearing bacteria, moist heat at 80 C. (176 F.) is nearly as efficient as boiling, and for practical purposes can be used in place of boiling. Instruments constructed of metal, whose complicated mechanism has heretofore caused them to be considered as nonsterilizable, can be sterilized by moist heat, provided the water is removed from them by immersing in alcohol subsequent to sterilization. Instruments whose construction does not permit of boiling can be sterilized by chemical disinfectants. In the latter procedure, immersion in 5 per cent. solution of phenol (carbolic acid) for at least sixty minutes is recommended; and in those cases in which the mechanical construction makes it difficult to remove excess of water, instruments can be placed in 95 per cent. alcohol for a few minutes to remove water, and then allowed to dry.

The courses of instruction in dental surgery of to-day are giving attention to the bacteriology of the subject and its relation to mouth hygiene as well as to general health. It is, however, a distinct advantage to have the practical results of actual tests of sterilizing agents available for professional men who have little opportunity for personal experience in the laboratory work involved. Hasseltine well remarks that the student usually forms the opinion that any sterilizing agent is effective, and does not learn to check his sterilization by bacteriologic tests. For this reason he believes that in dental schools and clinics there is need for the giving of more practical instruction in the methods of sterilization, and the subsequent testing of these by bacteriologic methods.

Op. cit. †Applications for the publication referred to should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D.C.

[*Journal American Medical Association*, February 5, 1916]
(*British Medical Journal*, January 1, 1916)

TREATMENT OF INFECTED GUNSHOT WOUNDS

Army surgeons, according to Gray, have been compelled, since this war began, to acknowledge the inefficiency of antiseptics when used as a preventive or for disinfecting agents in badly infected, lacerated wounds. Until applications were employed which stimulated a concentration of the general defensive forces of the body in and around the wound, no real advance in treatment was made. It mattered not what kind or what strength of antiseptic, pure and simple, was used, the infection ran a fairly definite course of fairly definite duration, which varied merely according to the patient's power of resistance. While the importance of free drainage was speedily acknowledged, quite a long time passed before there was any satisfactory recognition of the fact that the resisting agencies of the patient's own body are far more effective in dealing with a local infection than any purely antiseptic solution, powder, or paste introduced into it from without. It has been proved that the use of salt solutions applied in various ways, fulfils all the striking claims made for it by Wright. Hypertonic saline dressing, especially in the form now known as the "tablet and gauze pack," fulfils all desiderata better than any other yet applied.

After the wound has been cleaned by operation, all the recesses of the wound should be sought out by the finger, and filled, fairly firmly, with gauze wrung out of 5 to 10 per cent. salt solution, in the folds of which are placed numerous tablets of salt. Blood clot which may form during the packing should be wiped away. The gauze should be packed in concertina-wise, a tablet being placed between every third or fourth fold. A fairly large, fenestrated rubber tube is placed so as to reach to the deepest part of the main cavity, which is then filled with gauze and tablets. The dressing is made flush with the skin and the tube projects slightly from its midst. The surrounding skin is painted with solution of iodin or other antiseptic application. Two or three layers of gauze are then used to cover the wound and surrounding skin. A suitable amount of absorbent cottonwool is applied and a bandage wound on smoothly and firmly.

[*The International Journal of Orthodontia*, January, 1916]

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Original Articles

An Effective Method for the Mesial or Distal Movement of Individual Teeth in the Arch. By Harry E. Kelsey, D.D.S., Baltimore, Md.
Treatment by the Orthodontist Supplementing that by the Rhinologist. By A. H. Ketcham, D.D.S., Denver, Colo.
The Technic of Accurate Impression Taking. By Samuel J. Lewis, D.D.S., Kalamazoo, Mich.
The History of Orthodontia (Continued). By Bernhard W. Weinberger, D.D.S., New York City.

Editorials

Coöperation between the Dentist and the Orthodontist.
Bands vs. Ligature.
The Teaching of Orthodontia in Dental Colleges.
The Esthetic Side of Orthodontia.

[*Pacific Dental Gazette*, January, 1916]

Original Articles

Efficiency in Tooth Brushing. By Engstrom.
Dental Pediatrics. By Gurley.
The First Plaster Impression, and First Suction Plate. By Haskell.

Editorial

Are Root Canals Being Overtreated?

Selections

Chemical Studies of Relations of Micro-Organisms to Dental Caries. Gies and Collaborators.
A Pressing Need in Dentistry. By Johnson.

Practical Suggestions

Conducted by John C. Hopkins, D.D.S.

Dental Excerpts

Concerning Inlays. By Hinman.
The Financial Ally of the Pyorrhea Specialist. By Endelman.
Mercury Chlorid in Surgery.

[*The Dental Summary*, February, 1916]

Regular Contributions

Suggestion and Auto-suggestion in its Relation to Dentistry. By W. F. Stone.
Split Matrix and Amalgam Filling. By Drs. Barclay and McCready.
How to Sterilize the Tooth Brush. By Hugh W. MacMillan.
Dental Pathology and its Relation to Systemic Disease. By T. A. Leonard.
Correlating Conditions Common to Nose, Throat, and Oral Surgery. By E. B. Cayce.
Porcelain Inlays. By F. B. Roberts.
Impression Taking, Using Modeling Compound. By J. V. Howard.
What All Dentists Should Know About Orthodontia. By W. E. Lundy.

Dates of Some Old Dental Patents. By H. L. Ambler.
President's Address. By David P. Houston.
Some Thoughts on Education. By Henry W. Morgan.
Pyorrhea. By A. Clifford Braly.
Some Dental Hints. By J. B. Kelly.
The Sterilization of Dental Instruments. By H. E. Hasseltine.
A Review of Some Drugs Old and New. By S. F. M. Hirsch.
Dentistry, in its Progress Through the Century, to Stomatology as a Science. By James Truman.
Plastic Surgery of the Face. By W. A. Bryan.
Local Anesthesia in Dentistry. By B. H. Johnson.

[*Dental Items of Interest*, February, 1916]

Exclusive Contributions

Origin and Metastatic Importance of Chronic Oral Infections. By E. J. Eisen, D.D.S.; R. H. Ivy, M.D., D.D.S.
A Short Cut in the Indirect Method of Making Cast Gold Inlays. By Louis Herbst, D.D.S.

Radiodontia

"Bad Canal Work"; What Shall We Do About it? By Howard R. Raper, D.D.S.

Society Papers

An Acidimetric Study of the Saliva and Its Relation to Diet and Caries. By John Albert Marshall.
Medical Superstitions. By Garrett Newkirk.
The Professional Side of Dentistry. By Frank P. Duffy, D.D.S.

[*The Texas Dental Journal*, January, 1916]

Original Communications

The Evolution of Prosthetic Dentistry.
The Bigness of Little Things.
The Dentist: Who Is He?

With Our Contemporaries

Modern Attachments for Bridge Work.
Malarial Mosquitoes as the Food of Bats.
Should All Teeth Be Saved?
Operative Procedures in Relation to Dental Caries and Diseases of the Investing Tissues.
Relationship Between Medicine and Dentistry.
Porcelain-Faced Molar Crown.
Gold Inlays with Synthetic Cement Inserts.
Hemorrhage, Post-Operative—The Use of Coagulose as a Prophylactic.

SOCIETY NOTES

ALABAMA.

The next meeting of the Alabama Dental Association will be held at Mobile, Ala., April 11, 1916.—J. A. BLUE, Birmingham, Ala., *Secretary.*

ARKANSAS.

The next meeting of the Arkansas State Dental Association will be held at Little Rock, Ark., March 28–30, 1916.—WM. B. DORMAN, Nashville, *Secretary.*

FLORIDA.

The next meeting of the Florida State Dental Society will take place at Orlando, Fla., June 21, 1916.—M. C. IZLAR, Ocala, Fla., *Secretary.*

ILLINOIS.

The Illinois State Dental Society will hold its next meeting at Springfield, Ill., May 9–12, 1916.—HENRY L. WHIPPLE, Quincy, Ill., *Secretary.*

IOWA.

The next meeting of the Iowa State Dental Society will take place at Des Moines, Iowa, May 2–4.—H. A. ELMQUIST, Des Moines, Iowa, *Chairman of Exhibit.*

MARYLAND.

The next meeting of the Maryland State Dental Association will be held in Baltimore, Md., March 25, 1916.—F. F. DREW, Baltimore, Md., *Secretary.*

MASSACHUSETTS.

The next meeting of the Massachusetts Dental Society will be held in Boston, Mass. May 3–5, 1916.—A. H. St. C. CHASE, Boston, Mass., *Secretary.*

MICHIGAN.

The Michigan State Board of Dental Examiners will meet in the Dental College at Ann Arbor, June 19, 1916, at eight o'clock A.M.; for application blanks apply to E. O. GILLESPIE, Stephenson, Mich., *Secretary-Treasurer.*

MISSISSIPPI.

The next meeting of the Mississippi Dental Association will be held at Jackson, Miss., May 1–3, 1916. M. B. VARNADO, Osyka, Miss., *Secretary.*

MISSOURI, KANSAS, OKLAHOMA.

The Tri-State Post Graduate Dental meeting will be held at Kansas City, Mo., March 20–26, 1916.—C. L. LAWRENCE, Enid, Okla., *Secretary.*

NEBRASKA.

The Nebraska State Dental Society will hold its next meeting in Lincoln, Nebr., May 16–18, 1916.—H. E. KING, Omaha, Nebr., *Secretary.*

NEW YORK.

The Dental Society of the State of New York will hold its next meeting at the Hotel Ten Eyck, Albany, N. Y., May 11–13, 1916.—A. P. BURKHART, 52 Genesee St., Albany, N. Y., *Secretary.*

NEW YORK.

The next meeting of the Sixth District Dental Society of New York will be held at Hotel Bennett, Binghamton, N. Y., March 23–25, 1916.—WILLIAM A. OGDEN, *Chairman Arrangement Committee.*

PENNSYLVANIA.

The fifty-third annual meeting of the Lake Erie Dental Association will be held at Hotel Bartlett, Cambridge Springs, Pa., May 18–20, 1916.—J. F. SMITH, 120 W. 18th St., Erie, Pa., *Secretary.*

SOUTH CAROLINA.

The forty-sixth annual meeting of the South Carolina State Dental Association will be held at Chick's Springs, So. Car., July 11–13, 1916.—ERNEST C. DYE, Greenville, So. Car., *Secretary*.

TEXAS.

The Texas State Dental Association will hold its next meeting at Dallas, Texas, May 9–12, 1916.—W. O. TALBOT, Fort Worth, Texas, *Secretary*.

WEST VIRGINIA.

The next meeting of the West Virginia State Dental Association will be held at the Kanawha Hotel, Charleston, W. Va., April 12–14, 1916.—J. W. PARSONS, Huntington, W. Va., *Secretary*.

WISCONSIN.

The meeting of the Wisconsin State Board of Dental Examiners will be held at the Marquette Dental College, Cor. 9th and Wells St., Milwaukee, Wis., June 14, 1916, commencing at nine o'clock.—F. A. TATE, Daniels Blk., Rice Lake, Wis., *Secretary*.

AMERICAN INSTITUTE OF DENTAL TEACHERS

At the last annual meeting of the American Institute of Dental Teachers held at Minneapolis, Minn., January 25–27, 1916, the following officers were elected: President, Dr. Shirley W. Bowles, 1616 I Street, Washington, D. C.; Vice-President, Dr. John F. Biddle, 517 Arch Street, Pittsburgh, Pa.; Secretary-Treasurer, Dr. Abram Hoffman, 529 Franklin Street, Buffalo, N. Y.; Executive Board, Dr. A. W. Thornton, Montreal, Canada, Dr. R. W. Bunting, Ann Arbor, Michigan, and Dr. A. D. Black, Chicago, Ill.

The next annual meeting will be held at Philadelphia, January 23, 24, 25, 1917.

ODONTOLOGICAL SOCIETY OF WESTERN PENNSYLVANIA

The thirty-fifth annual meeting of the Odontological Society of Western Pennsylvania will be held at the Monongahela House, Pittsburgh, Pa., Tuesday and Wednesday, April 11 and 12, 1916.

The first regular session of the society will open on Tuesday at 10 A.M. The Executive Council will meet at the Hotel at 9.30 A.M. for the transaction of business in the interest of the society. The clinics and exhibits will be at the Monongahela House. Exhibitors are cordially invited to visit this meeting, and requested to make early reservation for space.

A cordial invitation is extended to all ethical dentists in Pennsylvania and adjoining states.

KING S. PERRY, *Secretary*.

719 Jenkins Bldg., Pittsburgh, Pa.

PATENTS

1112561, Tooth brush, Edwin H. Rodell, Cummings, N. D.
1112847, Centered mold for dental castings, Heinrich Schweitzer, New York, N. Y.
46510, Design, Sanitary tooth cleaner, Edwin G. Over, Fort Worth, Texas.
1113752, Dental handpiece, Alexander Campbell, Los Angeles, Cal.
1113325, Implement for forming metal backs for artificial teeth, Ernest D. R. Garden, Los Angeles, Cal.
1114624, Tooth straightening appliance, A. G. Meier, St. Louis, Mo.
1114646, Tooth brush, Lajos Pap, Arad, Austria-Hungary.
1114291, Orthodontic appliance, Ray D. Robinson, Los Angeles, Cal.
1115061, Tooth brush holder, John B. Foster, Newark, N. J.

1115779, Dental flask and means for closing and fastening the parts thereof, George Brunton, Leeds, England.
1116056, Apparatus for fumigating dental cavities, Henri Grasset, Paris, France.
1115678, Dental casting apparatus, W. B. C. Kaiser, Hamburg, Germany.
1116310, Sanitary dental tray, N. A. Maser, Vineland, N. J.
1115718, Dental instrument, Wm. H. Mosley, Toronto, Ont., Canada.
1116868, Saliva ejector, A. A. Anzelewitz, New York, N. Y.
1116371, Artificial denture, Ernest C. Bennett, New York, N. Y.
1116497, Tooth bridge, Friedrich Schreiber, Berlin, Germany.
1117660, Dental apparatus, John M. Gilmore, Chicago, Ill.
1117701, Dental syringe, F. L. Platt, G. N. Hein, and R. R. Impey, San Francisco, Cal.
1117275, Dental impression tray, S. G. Supplee, East Orange, N. J.
1117276, Taking partial impressions for artificial dentures, S. G. Supplee, East Orange, N. J.
1117277, Heating apparatus, S. G. Supplee, East Orange, N. J.
1117928, Attachment for dental impression cups, W. J. Thurmond, Columbus, Ga.
46650, Design, Tooth brush, Jay Lavenson, Philadelphia, Pa.
1118183, Blowpipe apparatus, W. C. Buckham, Jersey City, N. J.
1118301, Filling teeth, Thomas B. Magill, Kansas City, Mo.
1118156, Making a tooth brush, Joseph Schoepe, New York, N. Y.
1118703, Dental bridgework, George W. Todd, Omaha, Nebr.

Copies of above patents may be obtained for fifteen cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.

FUTURE EVENTS

March 14, 1916.—Fox River Valley Dental Society, Appleton, Wis.—R. J. CHADY, Oshkosh, Wis., *Secretary.*

March 20–26, 1916.—The Tri-State Post Graduate Dental Meeting (Missouri, Kansas, Oklahoma), Kansas City, Mo.—C. L. LAWRENCE, Enid, Okla., *Secretary.*

March 23–25, 1916.—Sixth District Dental Society, Binghamton, N. Y., Hotel Bennett.—WILLIAM A. OGDEN, *Chairman Arrangement Committee.*

March 25, 1916.—Maryland State Dental Association, Baltimore, Md.—F. F. DREW, Baltimore, Md., *Secretary.*

April 4–7, 1916.—Dental Manufacturers' Club, Chicago, Ill. Meeting in the Banquet Hall, Auditorium Hotel.—*Chairman Exhibit Committee*, A. C. CLARK, Grand Crossing, Chicago.

April 11, 1916.—Alabama Dental Association, Mobile, Ala.

April 12–14, 1916.—West Virginia State Dental Association, Kanawha Hotel, Charleston.

April 13–15, 1916.—Michigan State Dental Society, Detroit, Michigan.—CLARE G. BATES, *Secretary.*

May, 1916.—Susquehanna Dental Association, Scranton, Pa.—GEO. C. KNOX, 30 Dime Bank Bldg., Scranton, Pa., *Recording Secretary.*

May, 1916.—Indiana State Dental Association, Claypool Hotel, Indianapolis, Ind.—A. R. ROSS, *Secretary.*

May 2–4, 1916.—Iowa State Dental Society, Des Moines, Ia.—H. A. ELMQUIST, Des Moines, Ia., *Chairman of Exhibit.*

May 3–5, 1916.—Massachusetts Dental Society, Boston, Mass.—A. H. ST. C. CHASE, Boston, Mass., *Secretary.*

May 9–10, 1916.—North Dakota State Dental Association.—A. HALLENBERG, Fargo, No. Dak., *Chairman Exhibit Committee.*

May 9-12, 1916.—Texas State Dental Association, Dallas, Tex.—W. O. TALBOT, Fort Worth, Tex., *Secretary.*

May 9–12, 1916.—Illinois State Dental Society, Springfield, Ill.—HENRY L. WHIPPLE, Quincy, Ill., *Secretary.*

May 11–13, 1916.—Dental Society of the State of New York, Hotel Ten Eyck, Albany, N. Y.—A. P. BURKHART, 52 Genesee St., Albany, N. Y., *Secretary.*

May 16–18, 1916.—Nebraska State Dental Society, Lincoln, Neb.—H. E. KING, Omaha, Neb., *Secretary.*

May 18–20, 1916.—Lake Erie Dental Association, Hotel Bartlett, Cambridge Springs, Erie, Pa.—J. F. SMITH, *Secretary.*

June 1–3, 1916.—Northern Ohio Dental Association, Cleveland, O.—CLARENCE D. PECK, Sandusky, O., *Secretary.*

June 8–10, 1916.—Georgia State Dental Society, Macon, Ga.—M. M. FORBES, Candler Bldg., Atlanta, Ga., *Secretary.*

June 13–15, 1916.—Connecticut State Dental Association, Hotel Griswold, New London, Conn.—ELWYN R. BRYANT, New Haven, Conn., *Secretary.*

June 21, 1916.—Florida State Dental Society, Orlando, Fla.—M. C. IZLAR, *Corresponding Secretary.*

June 20–22, 1916.—New Hampshire Dental Society, Lake Sunapee, Zoo-Nipi Park Lodge, Lisbon, N. H.—J. E. COLLINS, *Chairman Exhibit Committee.*

June 27–29, 1916.—Pennsylvania State Dental Society, Pittsburgh, Pa.—LUTHER M. WEAVER, 7103 Woodland Ave., Philadelphia, Pa., *Secretary.*

June 28–30, 1916.—North Carolina State Dental Society, Asheville, N. C.—R. M. SQUIRES, Wake Forest, N. C., *Secretary.*

July 11–13, 1916.—South Carolina State Dental Association, Chick's Springs, S. C.—ERNEST C. DYE, Greenville, S. C., *Secretary.*

July 11–13, 1916.—Wisconsin State Dental Society Meeting, Wausau.—THEODORE L. GILBERTON, *Secretary.*

July 12–15, 1916.—New Jersey State Dental Society, Asbury Park, N. J.—JOHN C. FORSYTH, Trenton, N. J., *Secretary.*

July 25–28, 1916.—National Dental Association, 1st Regiment Armory, Louisville, Ky.—OTTO U. KING, Huntington, Ind., *Secretary.*

October 18–20, 1916.—Virginia State Dental Association, Richmond, Va.—C. B. GIFFORD, Norfolk, Va., *Corresponding Secretary.*

January 23–25, 1917.—American Institute of Dental Teachers, Minneapolis, Minn.—ABRAM HOFFMAN, 529 Franklin St., Buffalo, *Secretary-Treasurer.*

TOO BUSY TO READ?

"An hour with a book would have brought to his mind
The secret that took him a whole year to find.
The facts that he learned at enormous expense
Were all on a library shelf to commence.
Alas! for our hero; too busy to read,
He was also too busy, it proved, to succeed.

"We may win without credit or backing or style,
We may win without energy, skill or a smile,
Without patience or aptitude, purpose or wit—
We may even succeed if we're lacking in grit;
But take it from me as a mighty safe hint—
A civilized man cannot win without print."

—Unknown. Copied from Iowa State Bulletin.